Qsee®
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User Manual

QC SERIES NVRS

QC SERIES

H.264 NETWORK VIDEO RECORDERS

720P and 1080P Recording Options

Thank You for Choosing a Q-See Product!

All of our products are backed by a conditional service warranty covering all hardware for 12 months from the date of purchase. Additionally, our products also come with a free exchange policy that covers all manufacturing defects for one month from the date of purchase. Permanent upgrading service is provided for the software and is available at www.Q-See.com.

Be certain to make the most of your warranty by completing the registration form online. In addition to warranty and technical support benefits, you'll receive notifications of product updates along with free downloadable firmware updates for your NVR. Register today at www.Q-See.com!

Please see the back of this manual for exclusions.

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Manufacturer shall not be liable for any damages whatsoever from misuse of this product.

About this Manual

This manual is written for the QC800 Series of Network Video Recorders (NVRs) and was accurate at the time it was completed. However, because of our ongoing effort to constantly improve our products, and the different capabilities of the models covered in this manual, additional features and functions may have been added since that time and on-screen displays may change. We encourage you to visit our website at www.Q-see.com to check for the latest firmware updates and product announcements.

Your NVR is pre-configured in a way that most users find sufficient to their needs. However, because we understand that everyone's individual situation differs and because we are committed to providing the best value possible, our products contain a full range of features which may be tailored to custom-fit most situations. It is unlikely that you will need to use all of the features to meet your security needs, but they are available for when you do.

This manual covers the setup and local operation of the NVR. Instructions for configuring the NVR for remote access, along with instructions for monitoring the NVR using a computer or mobile device, are contained within the **Remote Monitoring Guide** which is included on the CD that accompanied your NVR and which can also be found on ***www.Q-See.com/support***.

Throughout the manual we have highlighted warnings and other important information that will assist you in operating your new system in a safe and trouble-free manner. Please take the time to read and follow all instructions and pay attention to alerts as shown below:

IMPORTANT! Red boxes with this icon indicate warnings. To prevent possible injury or damage to the product, read all warnings before use.

NOTE! Text in blue boxes with the Information icon offer additional guidance and explanations about how to make the most out of your system.

Version 2.6 11/7/13

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INTRODUCTION CHAPTER 1

To prevent damage to your Q-See product or injury to yourself or to others, read and understand the following safety precautions in their entirety before installing or using this equipment. Keep these safety instructions where all those who use the product will read them.

WARNING! ELECTRIC SHOCK RISK!

- Check the unit and any accessories included in the package immediately after opening. If items are missing or damaged, repackage and return to the point of purchase.
- Use the proper power source. Only use the power adapter supplied with your system. Do not use this product with a power source that applies more than the specified voltage (100-240V AC).
- Never insert anything metallic into the NVR. Inserting anything into the NVR or its case can be a source of dangerous electric shock.
- Do not operate in dusty areas. Avoid placing the NVR in places that are dusty.
- Do not expose this product to rain or use near water. If this product accidentally gets wet, unplug it and contact Q-See immediately.
- Keep product surfaces clean and dry. To clean the outside case of the NVR, gently wipe using a lightly dampened cloth (only use water, do not use solvents).
- Do not operate this NVR without the cover securely in place. Do not attempt to do any repairs to the NVR yourself. If there are unusual sounds or smells coming from the NVR, unplug it immediately and contact Q-See technical support. Under no circumstances should the cover be removed while the device is connected to a power source. You should only remove the cover to install/replace the hard disk drive (**See Chapter 6**) or replace the standard 3v lithium cell battery on the motherboard. These are the only user serviceable parts. You may need to replace the battery if the internal clock resets itself after a power outage
- Handle NVR box carefully. If you accidentally drop your NVR on any hard surface, it may cause a malfunction. If the NVR doesn't work properly due to physical damage, contact Q-See for repair or exchange.
- Make sure there is proper air circulation around the unit. This NVR system uses a hard drive for video storage which generates heat during operation. Do not block air holes located on the sides of the NVR as they are designed to keep the system cool while running. Install or place this product in an area where there is ample air circulation.
- Provide proper ventilation. This NVR has a built-in fan that properly cools the processor. Do not cover or impede this fan.

FEATURES AND SPECIFICATIONS

Your NVR (Network Video Recorder) contains professional-grade features and flexibility that allows the do-it-yourselfer to easily setup and maintain a reliable and secure security system for home and office.

It utilizes a dual-core CPU running an embedded Linux operating system to maintain stable operation and a popular H.264 compression algorithm to produce high-quality, low bitstream footage that is easy to manage and efficient to transfer over the internet. It can use various functions such as record, playback, and monitoring at the same time and produces audio and video synchronization. This product has advanced network technology and data transmission functions allowing you to control and monitor your system remotely.

This product offers the following features:

Smartphone Compatible

Access live footage directly from your iPhone, iPad, Android phone and tablet or other supported mobile device. Your NVR can also be set to e-mail your hand held-device whenever specific activity occurs, such as motion detection.

Dual Video Streams

The NVR will record high definition video directly to its internal hard drive, while streaming a more compact, lower resolution video feed over the network or Internet for real-time viewing on a computer or mobile device.

Built-in Power Over Ethernet (POE) Blocks

The POE Block allows you to power and view a number of cameras directly connected to the NVR without the need for additional power supplies or wiring. Connecting through the POE allows instantaneous video feed from your cameras.

View Your Video Feed Online with No Additional Service Fees

View your NVR's live or recorded video footage on any Internet accessible computer with Internet Explorer, Apple Safari, Mozilla Firefox and Google Chrome (using IE plug-in).

Stay Notified with Customizable Email Alerts

Set your system up to notify you when an event has occurred at the location you are monitoring. Notification alerts can easily be adjusted to your specifications.

Advanced Motion Detection Activated Recording

Advanced motion detection settings ensure that false alarms are not triggered. The easy to use motion detect set up screen allows you to mask out certain areas which experience heavy movement in order to avoid false alarms and avoid unnecessary record triggering.

Multiple Backup Options

A built-in USB port gives you the option of backing up and transferring your video footage using a flash drive or external USB hard drive. You can also connect to an external CD/DVD writer to burn your file footage right onto a compact disc or DVD disc. Files can also be accessed from your NVR system to a remote computer location by logging on remotely.

Connect to a TV or PC Monitor Easily

This system comes with VGA and HDMI video output ports to allow you to connect to a computer monitor or HD display for viewing purposes. Some models also include a BNC video port to allow the use of an analog television as a video display.

Individually Configurable User Controls

Create up to 20 individual user accounts giving specific users access to only certain functions, cameras and etc.

24/7 Scheduled Recording

Choose which days of the week and hours of the day you want to set your NVR to record or not record.

Included Mouse and Remote Control

In addition to the front panel button controls, system can also be booted up and shut down using the included remote control or mouse. Mouse operation function supports intelligent operation by enabling copy and paste functions.

Storage Function

Encrypted file format to ensure data security and avoid vicious data modification.

Multiple Playback Options and Advanced Search Functions

Supports real-time recording on each channel independently. Search through recorded files while you are playing live footage, monitoring through a remote location using a supported internet browsing application and backing up system files. A variety of playback modes include: slow play, fast play, backward play and frame by frame play.

Network Monitoring

Supports network remote real-time monitoring (available bandwidth permitting) and remote record search.

Alarm Activation Function

Several relay alarm outputs enable you to pair your system with an on-site alarm system.

Communication Ports

Standard Ethernet port allows you to access the NVR from a network or the Internet.

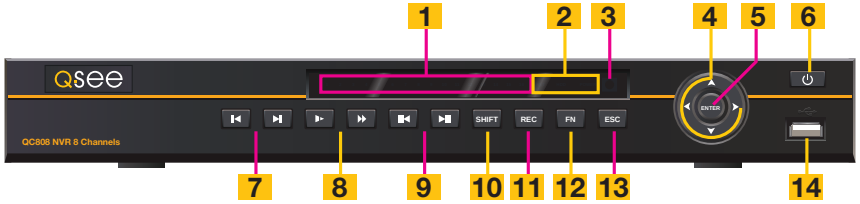
NOTE! Depending on your point of purchase, your NVR may have the hard disk drive already installed. If your drive was packaged separately, or if you wish to upgrade your installed drive up to a 3TB drive, please see Chapter 6 at the back of this manual which covers installing the drive.

CONNECTIONS AND CONTROLS CHAPTER 2

2.1 CONNECTIONS

QC804, 808 AND 8016

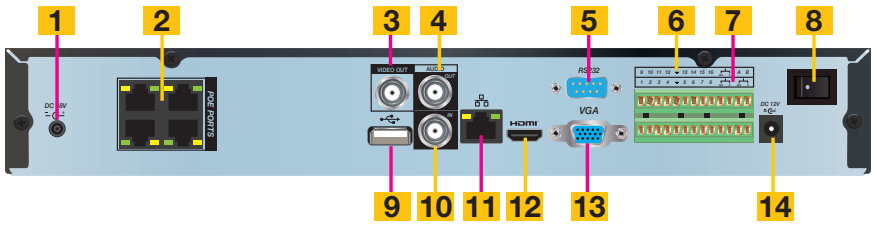
Front Panel



Number	Item	Function
1	Channel Status Lights	These lights will illuminate to indicate that a particular channel is recording.
2	Status Lights	Net and HDD will illuminate if there are problems with the network connection or hard drive, respectively. The power light will illuminate when the NVR is powered up.
3	IR Sensor	Infrared Receiver for Remote Control
4	Directional Buttons	Navigate through menus. Change selections in pull down menus (Up/Down buttons) Toggle settings (Up/Down buttons)
5	Enter Button	Viewing Mode: Go To Menu In Menu: Acts as mouse click
6	Power Button	Puts NVR into Standby mode or wakes it up.
7	Directional Play Buttons	Play back video forwards or backwards. Pressing the same button a second time will pause the video.
8	Playback Speed	Slow or speed up playback - 1/4 speed to 4x speed.
9	Frame Playback	Move forward or backwards frame-by-frame through video. Works when video is paused.
10	Shift Button	For use in Virtual Keyboard
11	Record Button	Begins manual recording on all channels
12	Function Button	Single Channel Viewing Mode: Opens Color Adjustment Virtual Keyboard: Backspace function
13	Escape Button	Exit any menu or current operation
14	USB Port	For use with flash drive when backing up or updating firmware. Not for use with mouse.

If the user is logged out, pressing the **Enter** button will open the **Login** window. Pressing the **Function** button will open the **Virtual Keyboard** which can be navigated using the directional buttons. Click **Enter** to enter a keystroke. Press the **Escape** button to close the **Virtual Keyboard** and then press the **Enter** button to submit your password.

Rear Panel



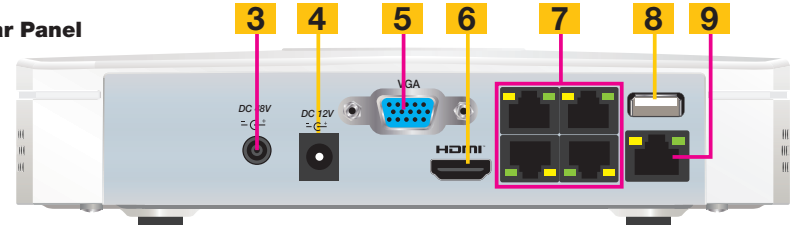
Number	Item	Function
1	POE Power Input	48V power input for the Power Over Ethernet (POE) block.
2	POE Block	Powers directly-connected cameras and receives video images.
3	Video Out	BNC Connector to television
4	Audio Out	BNC Connector for audio output
5	RS232	Reserved for use by manufacturer.
6	Alarm Input	Connect up to 16 external alarm sensors to this block. The top row of numbers is for the upper block.
7	PTZ and Alarm Out	Connect up to 3 external alarms using the Normally Open (NO) or Closed (C) port Connect the data cables for a PTZ camera into the ports labeled A and B to control it. “A” is positive (+) and “B” is negative (-).
8	Power Switch	Turns NVR on or off. Use Shutdown menu function or front panel power button before switching off.
9	USB	Connect the USB mouse to this port
10	Audio In	BNC input for audio feed from microphone
11	Network	Ethernet cable connection to network
12	HDMI Video Out	To connect to an HD display
13	VGA Video Out	To connect to a VGA monitor (19” or larger)
14	NVR Power Input	Connect 12V DC power supply here

Your NVR comes with two power supplies. The 48V is exclusively for use in powering the POE block while the 12V 5A supply is for the NVR itself. The plugs and receptacles are different to aid in connecting the proper power supply. Do not force or alter these connectors.

QC814

Front Panel

Rear Panel



Number	Item	Function
1	Status Lights	These show the status of the network connection, power and hard drive respectively. The Network and Power lights will normally be on. The Hard Drive light will normally be off.
2	USB Port	For use with flash drive when backing up or updating firmware. Not for use with mouse.
3	POE Power Input	48V power input for the Power Over Ethernet (POE) block.
4	NVR Power Input	12V power input for the NVR itself
5	VGA Video Out	To connect to a VGA monitor (21.5” or larger)
6	HDMI Video Out	To connect to an HD display (21.5” or larger)
7	POE Block	Powers directly-connected cameras and receives video images.
8	USB	Connect the USB mouse to this port
9	Network	Ethernet cable connection to network. You cannot connect a camera to this port.

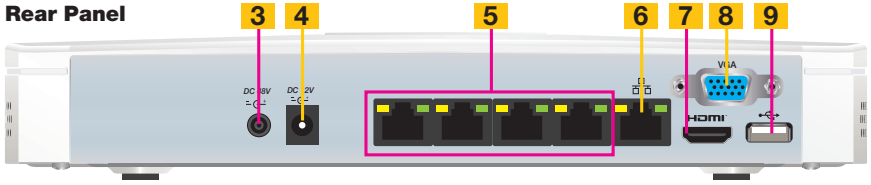
For full 1080P resolution video preview, you must use a 21.5 inch or larger monitor with 1920x1080 resolution.

Your NVR comes with two power supplies. The 48V is exclusively for use in powering the POE block while the 12V 5A supply is for the NVR itself. The plugs and receptacles are different to aid in connecting the proper power supply. Do not force or alter these connectors.

QC824

Front Panel

Rear Panel



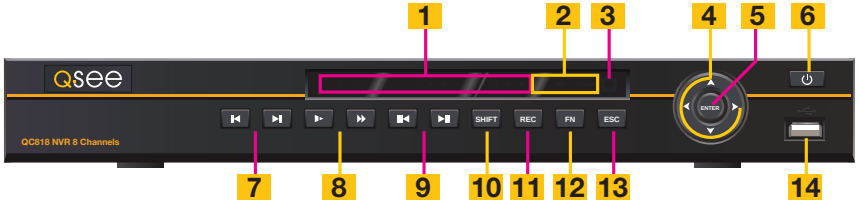
Number	Item	Function
1	Status Lights	These show the status of the network connection, power and hard drive respectively. The Network and Power lights will normally be on. The Hard Drive light will normally be off.
2	USB Port	For use with flash drive when backing up or updating firmware. Not for use with mouse.
3	POE Power Input	48V power input for the Power Over Ethernet (POE) block.
4	NVR Power Input	12V power input for the NVR itself
5	POE Block	Powers directly-connected cameras and receives video images.
6	Network	Ethernet cable connection to network. You cannot connect a camera to this port.
7	HDMI Video Out	To connect to an HD display (21.5” or larger)
8	VGA Video Out	To connect to a VGA monitor (21.5” or larger)
9	USB	Connect the USB mouse to this port

For full 1080P resolution video preview, you must use a 21.5 inch or larger monitor with 1920x1080 resolution.

Your NVR comes with two power supplies. The 48V is exclusively for use in powering the POE block while the 12V 5A supply is for the NVR itself. The plugs and receptacles are different to aid in connecting the proper power supply. Do not force or alter these connectors.

QC818

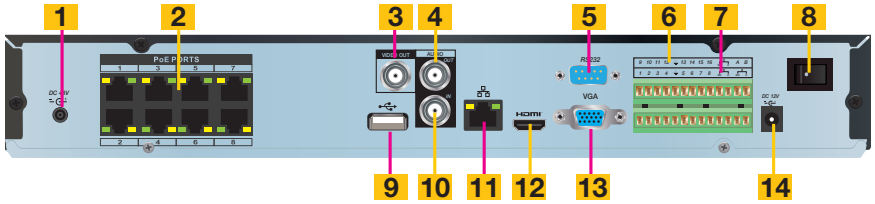
Front Panel



Number	Item	Function
1	Channel Status Lights	These lights will illuminate to indicate that a particular channel is recording.
2	Status Lights	Net and HDD will illuminate if there are problems with the network connection or hard drive, respectively. The power light will illuminate when the NVR is powered up.
3	IR Sensor	Infrared Receiver for Remote Control
4	Directional Buttons	Navigate through menus. Change selections in pull down menus (Up/Down buttons) Toggle settings (Up/Down buttons)
5	Enter Button	Viewing Mode: Go To Menu In Menu: Acts as mouse click
6	Power Button	Puts NVR into Standby mode or wakes it up.
7	Directional Play Buttons	Play back video forwards or backwards. Pressing the same button a second time will pause the video.
8	Playback Speed	Slow or speed up playback - 1/4 speed to 4x speed.
9	Frame Playback	Move forward or backwards frame-by-frame through video. Works when video is paused.
10	Shift Button	For use in Virtual Keyboard
11	Record Button	Begins manual recording on all channels
12	Function Button	Single Channel Viewing Mode: Opens Color Adjustment Virtual Keyboard: Backspace function
13	Escape Button	Exit any menu or current operation
14	USB Port	For use with flash drive when backing up or updating firmware. Not for use with mouse.

If the user is logged out, pressing the **Enter** button will open the **Login** window. Pressing the **Function** button will open the **Virtual Keyboard** which can be navigated using the directional buttons. Click **Enter** to enter a keystroke. Press the **Escape** button to close the **Virtual Keyboard** and then press the **Enter** button to submit your password.

Rear Panel



Number	Item	Function
1	POE Power Input	48V power input for the Power Over Ethernet (POE) block.
2	POE Block	Powers directly-connected cameras and receives video images.
3	Video Out	BNC Connector to television
4	Audio Out	BNC Connector for audio output
5	RS232	Reserved for use by manufacturer.
6	Alarm Input	Connect up to 16 external alarm sensors to this block. The top row of numbers is for the upper block.
7	PTZ and Alarm Out	Connect up to 3 external alarms using the Normally Open (NO) or Closed (C) port Connect the data cables for a PTZ camera into the ports labeled A and B to control it. “A” is positive (+) and “B” is negative (-).
8	Power Switch	Turns NVR on or off. Use Shutdown menu function or front panel power button before switching off.
9	USB	Connect the USB mouse to this port
10	Audio In	BNC input for audio feed from microphone
11	Network	Ethernet cable connection to network
12	HDMI Video Out	To connect to an HD display
13	VGA Video Out	To connect to a VGA monitor (19” or larger)
14	NVR Power Input	Connect 12V DC power supply here

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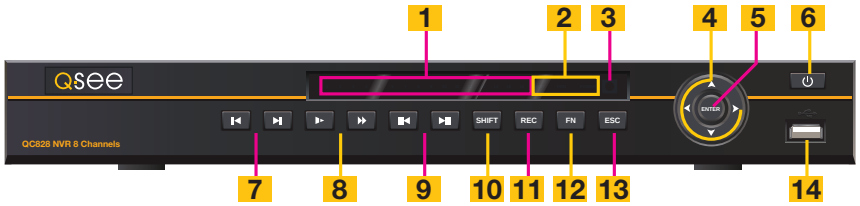
QC828

Front Panel



Number	Item	Function
1	Channel Status Lights	These lights will illuminate to indicate that a particular channel is recording.
2	Status Lights	Net and HDD will illuminate if there are problems with the network connection or hard drive, respectively. The power light will illuminate when the NVR is powered up.
3	IR Sensor	Infrared Receiver for Remote Control
4	Directional Buttons	Navigate through menus. Change selections in pull down menus (Up/Down buttons) Toggle settings (Up/Down buttons)
5	Enter Button	Viewing Mode: Go To Menu In Menu: Acts as mouse click
6	Power Button	Puts NVR into Standby mode or wakes it up.
7	Directional Play Buttons	Play back video forwards or backwards. Pressing the same button a second time will pause the video.
8	Playback Speed	Slow or speed up playback - 1/4 speed to 4x speed.
9	Frame Playback	Move forward or backwards frame-by-frame through video. Works when video is paused.
10	Shift Button	For use in Virtual Keyboard
11	Record Button	Begins manual recording on all channels
12	Function Button	Single Channel Viewing Mode: Opens Color Adjustment Virtual Keyboard: Backspace function
13	Escape Button	Exit any menu or current operation
14	USB Port	For use with flash drive when backing up or updating firmware. Not for use with mouse.

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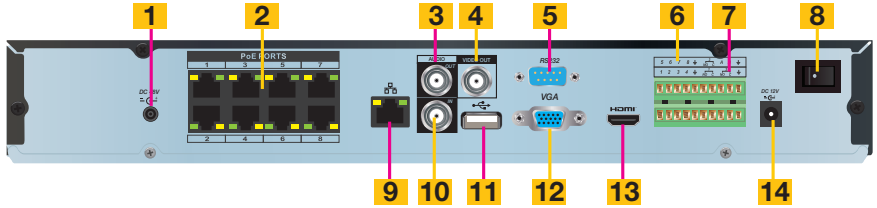
Rear Panel



Number	Item	Function
1	POE Power Input	48V power input for the Power Over Ethernet (POE) block.
2	POE Block	Powers directly-connected cameras and receives video images.
3	Audio Out	BNC Connector for audio output
4	Video Out	BNC Connector to television
5	RS232	Reserved for use by manufacturer.
6	Alarm Input	Connect up to 8 external alarm sensors to this block. The top row of numbers is for the upper block.
7	PTZ and Alarm Out	Connect up to 3 external alarms using the Normally Open (NO) or Closed (C) port Connect the data cables for a PTZ camera into the ports labeled A and B to control it. “A” is positive (+) and “B” is negative (-).
8	Power Switch	Turns NVR on or off. Use Shutdown menu function or front panel power button before switching off.
9	Network	Ethernet cable connection to network
10	Audio In	BNC input for audio feed from microphone
11	USB	Connect the USB mouse to this port
12	VGA Video Out	To connect to a VGA monitor (19” or larger)
13	HDMI Video Out	To connect to an HD display
14	NVR Power Input	Connect 12V DC power supply here

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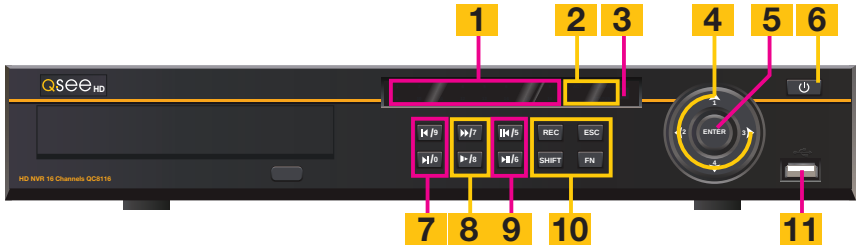
QC8116

Front Panel



Number	Item	Function
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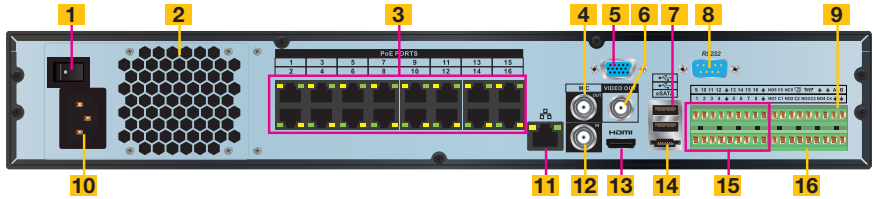
2	Status Lights	Net and HDD will illuminate if there are problems with the network connection or hard drive, respectively. The power light will illuminate when the NVR is powered up.
3	IR Sensor	Infrared Receiver for Remote Control
4	Directional Buttons	Navigate through menus. Change selections in pull down menus (Up/Down buttons) Toggle settings (Up/Down buttons)
5	Enter Button	Viewing Mode: Go To Menu In Menu: Acts as mouse click
6	Power Button	Puts NVR into Standby mode or wakes it up.
7	Video Playback Buttons	Play back video forwards or backwards. Pressing the same button a second time will pause the video.
8	Playback Speed	Slow or speed up playback - 1/4 speed to 4x speed.
9	Frame Playback	Move forward or backwards frame-by-frame through video. Works when video is paused.
10	Funtion Buttons	Rec - Begins manual recording on all channels Esc - Exit any menu or current operation Shift - For use in Virtual Keyboard Fn - Single Channel Viewing Mode: Opens Color Adjustment Virtual Keyboard: Backspace function
11	USB Port	For use with flash drive when backing up or updating firmware. Not for use with mouse.

If the user is logged out, pressing the **Enter** button will open the **Login** window. Pressing the **Function** button will open the **Virtual Keyboard** which can be navigated using the directional buttons. Click **Enter** to enter a keystroke. Press the **Escape** button to close the **Virtual Keyboard** and then press the **Enter** button to submit your password.

Rear Panel



Number	Item	Function
1	Power Switch	Turns NVR on or off. Use Shutdown menu function or front panel power button before switching off.
2	Fan	Cooling fan exhaust port. This should not be blocked
3	POE Block	Powers up to 16 directly-connected cameras and receives video images.
4	Audio In	BNC input for audio feed from microphone
5	VGA Video Out	To connect to a VGA monitor (19” or larger)
6	Video Out	BNC Connector to television
7	USB (x2)	Use for USB mouse and external USB hard drive.
8	RS232	Reserved for use by manufacturer.
9	RS485	For controlling peripherals using the RS485 standard
10	Power input	Attachment point for power cord
11	Network	Ethernet cable connection to network
12	Audio Out	BNC Connector for audio output
13	HDMI Video Out	To connect to an HD display
14	eSATA	Connection for external eSATA hard drive for backup
15	Alarm Input	Connect up to 16 external alarm sensors to this block.
16	Alarm Out	Connect up to 4 external alarms using the Normally Open (NO) or Closed (C) port

2.2 MOUSE CONTROL

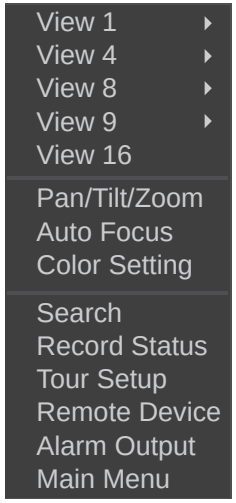
Your NVR is mainly controlled through the USB mouse. Some models can also be controlled through a remote control or by using the buttons on the front panel of the device. We have found that the majority of our customers prefer to operate their NVRs using the USB mouse because of its ease of use and flexibility and our manual is set up with this in mind. The remote control, if included, allows you to perform most of the day-to-day functions from a convenient distance. It functions as a typical remote control with additional buttons allowing you to navigate through menus and control functions. Please note that NVRs without an IR Sensor on the front panel (see your model's illustration in the previous **Connection** section) cannot be controlled via remote control and none will be provided. Also, the sensor must not be blocked or obstructed in order for the remote to function. We recommend that you configure your NVR using the mouse controls, reserving the remote control for operations such as live viewing, file search and playback.

The mouse operates in a manner similar to how it is used on a conventional computer; point-and-click, right-click, double click and so on. How these functions are used is based on the context of where they are used. Some examples are:

LEFT CLICK:
- Selecting an item
- Opening a menu
- Checking a box or motion detection status
- Selecting letters, numbers or symbols on the virtual keyboard.

DOUBLE CLICK:
- Selecting an event for playback
- Selecting a screen to zoom into from multi-screen mode

RIGHT CLICK
- Exits any window. Exits any menu or reopens previous menu.
- Opens **Pop-Up Shortcut** Menu. The options available - especially multi-channel viewing options - will vary by model



PICTURE 2-1

MOUSE WHEEL
- Page up or page down
- Switch items in check box
- Increase or decrease numerical value in numerical input box

CLICK-AND-DRAG
- Select motion detection zone
- Select privacy mask zone

VIRTUAL KEYBOARD

Whenever a menu field requires text - such as a password, new user name, or other setting - clicking on that field will bring up the virtual keyboard. It operates as regular keyboard using the point and click function of the mouse to select individual characters. Clicking the shift key allows access to the upper-case characters.

Spaces are entered using the ␣ symbol and characters are deleted with the ← key. Clicking **Enter** or clicking outside of the keyboard will close it.

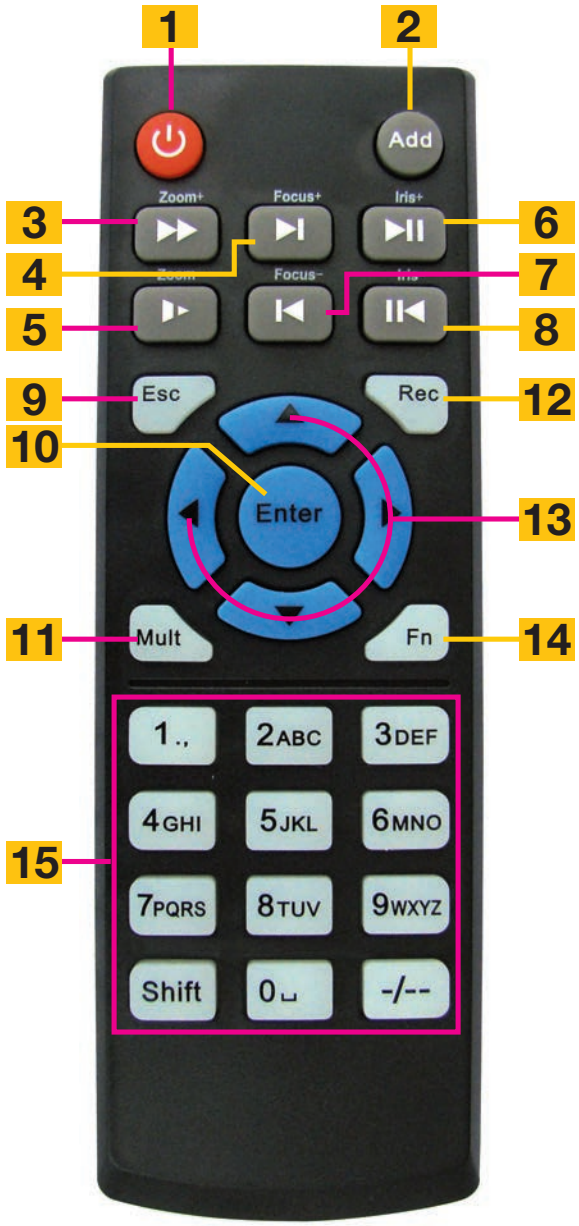
PICTURE 2-2

2.3 REMOTE CONTROL

The buttons on the Remote Control operate in the same manner as on a conventional video player remote. Some buttons have multiple functions depending on which menu is being accessed.

If your DVR cannot use a remote control, none will be provided.

Num.	Name	Function
1	Power Button	Turn on or shut down the NVR before turning it off with the power switch.
2	Address	An additional security feature. You can require the NVR to ask you to enter the Device Number (found in the **General Settings** menu) before being able to access the log-in screen.
3	Fast Forward	Multiple fast forward speeds in Playback mode. Zoom in when in PTZ mode.
4	Next Record	Goes to next video in Playback mode. Adjust focus when in PTZ mode.
5	Slow Play	Multiple slow playback speeds and resumes normal playback. Zoom out when in PTZ mode.
6	Play/Pause	Will open Playback/Search mode. Begins playback of selected video or pauses current video. Adjust Iris (light level) in PTZ mode.
7	Previous Record	Goes to previous video in Playback mode. Adjust focus when in PTZ mode.
8	Reverse/Pause	"Rewind" current video or resume normal playback. Adjust Iris (light level) in PTZ mode.
9	Escape	Cancel current function or exit current menu.
10	Enter	Select default button. Go to main menu.
11	Multi-view mode	Cycle through available multi-screen display modes.
12	Record	Opens recording interface. Use directional keys to select recording mode and channel.
13	Directional Keys	Navigate through menus. Cycle through channels in single- or 8-screen viewing mode. Control Playback progress bar in Playback mode Control PTZ camera and switch menus in PTZ mode.
14	Function	Opens volume control. Switches PTZ control menu Use with Directional keys to set up Motion Detection
15	0-9 Keys	Use in similar manner to phone keypad to enter password, etc. Push number to select desired channel for viewing.



PICTURE 2-3

NOTE! The QC814 and QC824 cannot be operated using a remote control and your package will not include one.

2.4 IP CAMERAS

Internet Protocol (IP) or Network cameras differ from conventional video cameras in that each is a stand-alone device with a built-in processor of its own. This allows it communicate directly with the NVR by using standard internet protocols whether it is connected directly to the NVR or over a network or even the Internet. It is for this reason that the NVR treats them as peripheral or remote devices with the NVR serving as the interface and recording system.

Your NVR features an industry-exclusive built-in Power Over Ethernet (POE) block that allows you to connect up to four IP cameras directly to it up to 200 feet away using RJ-45 (Ethernet) cables without the need to purchase a separate power block or to locate the cameras near power outlets. The Ethernet cable will both power the camera and deliver the video signal to your system.

The NVR will assign cameras to channels in the order they were connected. Therefore, if you have a particular sequence that you want for your cameras, it is recommended that you connect them one at a time.

Cameras connecting to your system over a network (local or Internet) will also ultimately connect through your network's router and their signal will be received by the NVR through its Network port. These cameras will need to be powered on their side of the network.

Whenever possible, it is best to use a continuous length of cable rather than multiple short segments as each intervening connection could result in a small loss of power and signal.

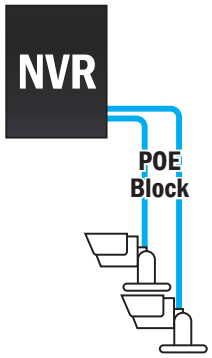
As of this writing, this NVR supports IP cameras made by: Dahua, Arecont Vision, Axis, Canon, Dynacolor, Panasonic, Samsung, Sanyo, Sony and Onvif.

LOCALLY CONNECTED CAMERAS

For the purposes of these instructions, "locally connected cameras" are those that are plugged directly into the NVR's POE ports.

Using the Power Over Ethernet Block

Your NVR's POE block will power up to four cameras while receiving their video signals. This is the primary and preferred method to connect cameras to your NVR. This feature cannot be expanded through use of a network switch. These ports are also not to be used to connect the NVR to a network router. When an IP camera is connected to the NVR through the POE port, it will receive power immediately, but there may be a delay of up to a minute before the camera's signal appears on the screen as the system establishes connectivity.



PICTURE 2-4

If you are unsure, and if your camera has infrared LEDs, you may cup your hand over the lens area to activate the infrared night vision mode. You will see a faint red glow from the LEDs confirming that the camera has power.

CAMERAS CONNECTED THROUGHA NETWORK

There are two types of networks – local (LAN or Intranet) and Internet (or WAN). Cameras can be accessed by the NVR over both types.

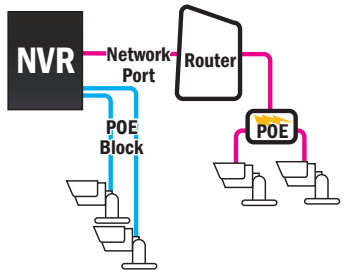
Local Networks

For cameras positioned too far away to reasonably run a network cable directly to the NVR, you can connect it to the same network as the NVR and the system will be able to access and use them.

Ultimately, each camera will have to connect to the same router that the NVR is connected to. They will need to be connected to a power source on their side of the network - preferably a POE - as the POE block on the NVR itself is unable to provide power through the network.

Alternately, if your NVR was bundled with cameras, they may include a power input as additional power option. You will need to acquire a power adapter that matches the ratings listed on the camera itself if you are not connecting them to a POE.

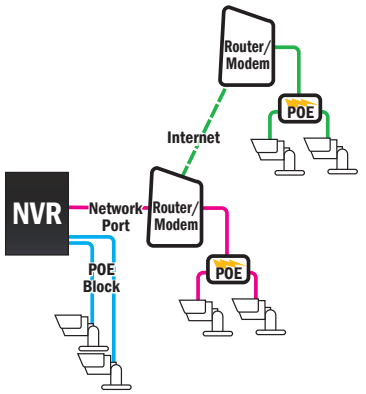
The NVR will connect to these cameras through the same cable that it uses to communicate with the network.



PICTURE 2-5

Connections Over the Internet

A third connection option is via the Internet. This method is more complicated, but it allows the user to view cameras that are located in a completely different building – or region – from the NVR itself. In essence, your NVR will be remotely monitoring those cameras. As such, the user will need to forward ports using the IP Tool software included on the **Manuals and Software CD** to obtain the IP address for any camera that will be accessed over the Internet. Full instructions are included in the manual for that software.



PICTURE 2-6

ADDING AND REMOVING CAMERAS IN YOUR DISPLAY

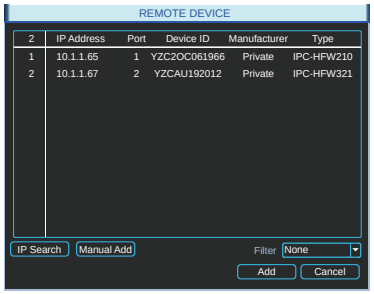
As stated earlier, your NVR will automatically show video from cameras connected to it directly through the POE Block as they are connected - assigning them to channels sequentially regardless of which port is used to connect them. Cameras sharing the network with the NVR will not automatically connect. There are two ways to connect them - through the use of the **Add Camera** icon in the **Live View** window and the **Remote Device** window located in the **Main Menu**. The latter method will be covered in detail in **Section 4.5**.

Add Camera

Moving the cursor to the center of any empty channel will reveal the **Add Camera** icon shown in **Picture 2-7**. Clicking on this will open a window listing available cameras.

PICTURE 2-7

Clicking on **IP Search** will refresh this list. Simply click on the desired camera from the list and it will become the camera for that channel. Please note that it is possible to load a camera which is already in use by another channel. In which case, you will have two identical channels.



PICTURE 2-8

A NOTE ABOUT RESOLUTION AND RECORDING

IP cameras are available from Q-See in the two common high definition standards - 720P and 1080P. These resolutions differ in the number of pixels (individual dots that make up the image) available. The more pixels in an image, the larger, more clearer it will be. Cameras with 720P resolution will produce video 1280 pixels wide by 720 pixels high while that from 1080P cameras will measure 1920 pixels by 1080 pixels.

Of course, the larger the video image, the larger the video file size and the more processing power that is required to handle the video. For this reason, you may decide to have a 1080P camera record at a lower resolution to save drive space using the **Camera Settings** menu (see **Section 3.4**).

While all Q-See NVRs are designed to work with both 720P and 1080P cameras, certain considerations may affect the recording rate which is expressed in terms of Frames Per Second (FPS). The human eye sees 30FPS as “real time” with lower frame rates being increasingly more “jerky”. Cameras connected directly through the POE will have smoother video than those connecting over the Internet simply due to network transfer rates. Additionally, certain models such as the QC814 and QC818 are optimized for 720P cameras. While they can process the larger video from 1080P cameras, they will do so at the lower frame rate of 15FPS. Individual users may also decide to lower the recording frame rate of a camera to save disk space, or to improve the frame rate from another camera, such as a remote camera.

BASIC OPERATION CHAPTER 3

This chapter is intended to get your system operational in a baseline format now that you’ve connected your system and turned it on after following the instructions on the Quick Start Poster that came with your system. This chapter combines information and instructions on several submenus and settings but may not mention all of the functions or options available in a given menu. For many users, these basic operating instructions may be all they need to operate their security system. But, because this system offers many more features, the next chapters will cover additional and more advanced operations in greater detail.

As stated on page 3 of this manual, certain screen shots may not exactly match the images that appear on your screen. You may see a reference to a feature, menu or setting that is not available on your system. This is due to our continued upgrading of the NVR’s firmware, along with not all models sharing the same features. We welcome requests as well as user feedback as part of our ongoing effort to improve our products. These may be made through our Knowledge Base - which is where you will also find questions to the vast majority of your questions - at ***www.Q-See.com/Support***.

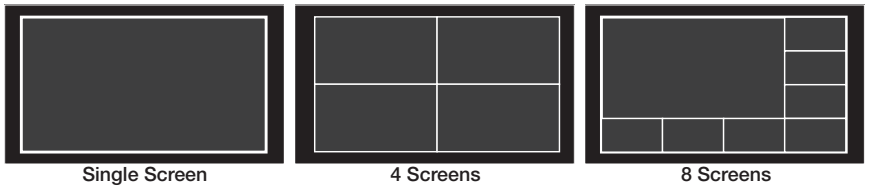
3.1 OPERATION

This NVR can be controlled through the USB mouse, the remote control or by using the buttons on the front of the device. For the purposes of this manual, instructions will be given for using the mouse.

In operation, the mouse functions in the same manner as one would use a mouse attached to a computer; point, click, right-click, and etcetera. In fields where data needs to be entered, clicking on the field will bring up a virtual keyboard. (**See Section 2.3 Mouse Control**)

3.2 LIVE VIEW

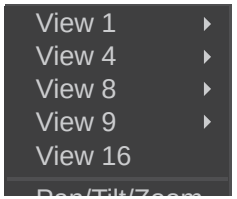
Live View is the default mode for the NVR. It will display the video feeds from up to four, eight or 16 cameras depending on model. You do not need to be logged into the NVR to view or change the channel(s) on the screen. The actual number of channels displayed depends on the number of cameras you own. You can view a single channel in full-screen mode or multiple channels simultaneously in a variety of layouts.



PICTURE 3-1

Clicking on any one screen in multi-view mode will bring that screen to full-screen single-view mode. The exception is in eight-view where clicking on one of the smaller displays will move it to the larger display. You can also drag channels to a different position on the screen with the displaced channel relocating to the position of the one that was moved.

In addition to selecting the viewing mode from the **Shortcut Menu** using the mouse, you can also cycle through the modes using the up and down arrows on the remote or the front of the NVR. The left and right arrows on both the remote and NVR front panel will cycle through which channels are displayed.



PICTURE 3-2

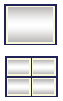
In **Live View**, along with the channel(s), you will see the system date and time displayed along with the name and icons indicating the status of each channel. Setting the system date and time and changing the channel names is covered in **Section 4.3** under the **Settings** menu.

	Recording		Motion detected		Video loss

NAVIGATION BAR

Left-clicking on the screen in Live View mode will open the Navigation Bar allowing you shortcut access to select menus and functions. It also serves as an easy-to-view status bar showing the current situation with alerts, network, and drives.

PICTURE 3-3

	Opens Main Menu		Minimize/ Maximize Bar		Screen Display Mode		PTZ Controls
	Opens Search Menu		Alarm Status		Network Status/ Opens Network Window		Manage Hard Drive
	Startup Wizard		Opens Tour Setup Window				

The icons on the navigation bar will also alert you to issues with the status of your drive, network connection and alarms with red icons when a situation arises.

SHORTCUT VIDEO CONTROLS

When the mouse cursor is in the top-center portion of a channel with a live video stream, a set of shortcut controls will appear. These allow you to perform quick playback and backup functions, digitally zoom in and add another camera.

PICTURE 3-4

	Realtime Playback		Digital Zoom		Quick Backup
	Snapshot (not available on all models)		Add Remote Device		Two-Way Talk

Clicking the **Realtime Playback** icon will cause the window to play back the most recent video clip recorded by that camera. The duration of this clip is set in the **General Settings** menu.

Click the **Digital Zoom** icon and then select an area of interest within that channel's video feed to enlarge the area. Right-click with the mouse to exit the zoom.

Quick Backup allows you to save the current live video to a USB drive inserted into the front USB port. If no drive is present, you will receive an error message.

Snapshot allows you to take still images which will be saved onto the hard drive. You can search for these using the same **Search and Playback** window used to search for video. See **Section 3.5** for full instructions.

Use **Add Remote Device** to replace the current camera with another camera - or QC DVR - from your list of connected cameras shown in the **Remote Device** menu. You cannot add a camera that is already being displayed using this tool.

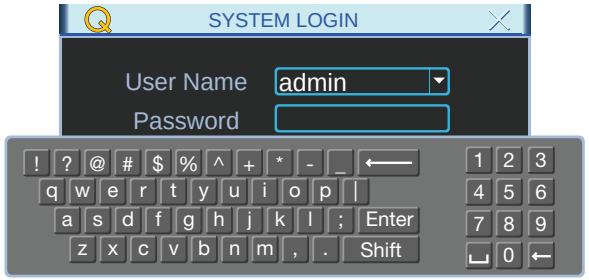
If you have a speaker and microphone located near your camera and you have a microphone located at your DVR, clicking on the **Two-Way Talk** icon will allow you to talk anyone within the same area as the camera. The icon will be green while this feature is active. Unclick it to hear any responses. You can set the number of pictures taken with each click in the **General Settings** menu (see **Section 4.3**).

You can close the controls either by either right-clicking or by moving the mouse out of the area.

3.3 LOGIN, LOGOUT AND MAIN MENU

LOGIN

When the NVR starts up, the default video display is multiple window mode. Right-clicking the mouse or pressing the **Enter** button on the front of the NVR will bring up the **Shortcut Menu** (covered on the next page) allowing you to select an action, however before you can access certain functions, the **System Login** screen will open to allow you to log in.



PICTURE 3-5

Using the mouse or remote control, select your user name and enter your password. Whenever the cursor is over a text field, a keyboard icon will appear to the right. Clicking within the field itself will open the virtual keyboard as explained in **Section 2.2**. Clicking on the keyboard icon allows you to cycle between numbers, letters (upper and lower case) and symbols when appropriate.

Until new accounts are added, there are two pre-configured accounts available to users who log into the NVR:

- Administrator (local and network) User name: ***admin*** Password ***admin***
- User name ***user*** Password ***user***

You must have access rights – whether as the system administrator or logged-in user – in order to change settings. See **Account** in **Section 4.4** for information regarding user accounts.

IMPORTANT! It is highly recommended that you change your system password after you complete the setup of your system to ensure the security of your system. Record your changes and keep that information stored securely as the system will prevent access if the incorrect login information is attempted three times within a 30-minute period. If you find yourself locked out of the NVR because of this, wait 30 minutes, reboot the NVR and attempt to log into it again.

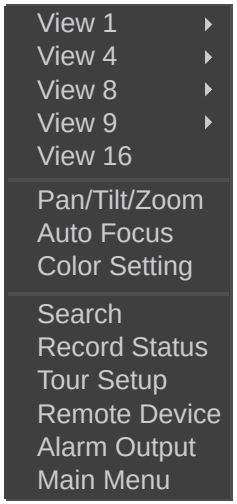
Once you have logged in, the NVR will display one or more camera channels in Live View. How many channels are displayed will depend on how many cameras you have connected as well as what multi-view mode you have chosen.

After a period of inactivity – configurable in the **General Setting** submenu described in **Section 4.3** – the NVR will log users out. This will require the current user to re-enter their password.

SHORTCUT MENU

In **Live View** mode, right-clicking anywhere on the screen will bring up the **Shortcut Menu**.

This menu allows you to quickly change your viewing mode as well as moving directly to a selection of menus, including the **Main Menu**.



PICTURE 3-6

View - This allows you to view a group of cameras on screen at the same time. The number of cameras available will depend on how many cameras your NVR will support. The shortcut menu on a 4-channel NVR will not offer the 8, 9 or 16 camera options, for example. The arrows to the right of the options will allow you to select specific cameras.

Pan/Tilt/Zoom - This will take you directly to the **PTZ Control** window (**See Section 5.1**). The controls will only work with PTZ cameras.

Auto Focus - This option will only work with cameras equipped with auto focus. This feature is not available on all models.

Color Settings - You can adjust the camera's brightness, color balance, contrast and other aspects to best suit its operating environment. These changes can be made using the sliders or by selecting a pre-generated color mode.

Search - This opens the **Search and Playback** window (**See Section 3.5**).

Record Status - This opens the Recording Status window which shows how each camera is programmed to record. It allows the user to quickly change the current status of each camera. (**See Section 3.4**).

Tour Setup - This is a shortcut to the **Tour Setup** window located in the **Display** window. This window is used to create a "tour" of channels that your NVR will cycle through. See **Display** in **Section 4.3** for more information.

Remote Device - This opens the **Remote Device** window which allows you to access IP cameras which are located on a different network from your NVR. (**See Section 4.5**).

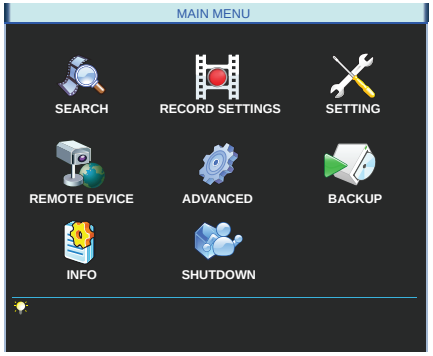
Alarm Output - This will take you to the **Alarm Output** menu - which is also available through the Advanced Menu. This menu allows you to change how the alarms operate as well as check on their status. **See Chapter 6** for full details.

Main Menu - This opens the **Main Menu** - see below.

MAIN MENU

After logging in, you can view – and access - the NVR's functions through the Main Menu.

There are eight submenus available; **Search**, **Record Settings**, **Setting**, **Remote Device**, **Advanced**, **Backup**, **Info**, and **Shutdown**. Clicking on an icon will take you to that function or the submenu it represents.



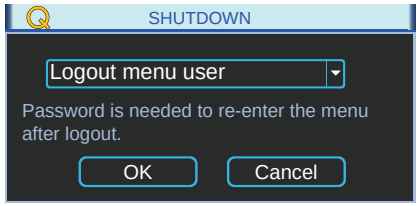
PICTURE 3-7

SHUTDOWN

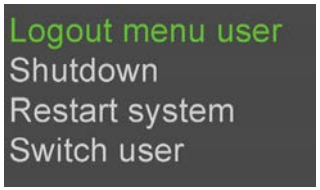
Selecting the Shutdown icon in the Main Menu will open the Shut Down window.

This window allows you to choose to log out as a user, shut down the system, restart the system or switch users.

In addition, the NVR can also be shut down by pressing on the front panel power button for three seconds. The system will stop operating and it can then be turned off via the **Power** button on the rear of the NVR.



PICTURE 3-8



PICTURE 3-9

AUTO RESUME

In the event of a power failure, the NVR will automatically save any video files it is currently recording and will then resume scheduled operations once power is restored.

3.4 RECORDING

Your NVR is factory set to record when motion is detected. Most users prefer this as it means that it is easier to locate an event using the **Search** function (see **Section 3.5**) and it will take longer before the DVR will need to overwrite older files on the hard drive. You can override this in the **Record** menu, as discussed below, or you can schedule the hours when the NVR captures motion.

MANUAL RECORDING

This window allows you to override the scheduled recording times of selected cameras. You can access the **Record Status** menu via the **Shortcut menu** or by pushing the **Record** button on the remote.

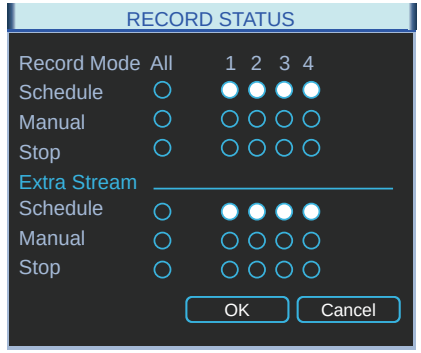
There are three status modes: **Schedule**, **Manual** and **Stop**. The status of each channel is shown by the filled circle under its number. Each camera can only have one status at a time. Changes take effect once the **OK** button is selected.

Manual – The selected cameras will begin recording

Schedule – Cameras record based on your settings made in the **Schedule Menu** or **Detect Menus** (see following pages)

Stop – All selected cameras stop recording

These same settings can be applied separately to the **Extra Stream**. This is the video data that is sent by the NVR through the Internet to enable remote monitoring. This stream has a lower bandwidth than the main stream which is recorded to the DVR. Having a lower bandwidth makes it easier for mobile devices to display the video feeds in real-time.



PICTURE 3-10

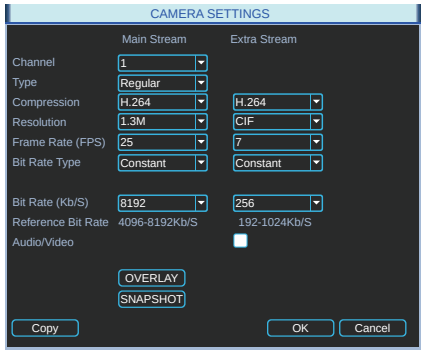
You can assign the same values to all cameras by selecting the desired status in the "**All**" column.

CAMERA SETTINGS

This window allows you to manage the quality of the recording from each channel as well as the transmission rate and whether there's an accompanying audio feed.

As with other windows described earlier, each channel can be set individually or all at the same time. Settings can be copied from one channel and pasted to another. Your settings will only be saved if you exit the window by clicking **OK**. Right-clicking or hitting **Cancel** will leave the system with your previous settings.

There are settings both for the Main Stream - the video files that record directly onto the NVR's hard drive, and the Extra Stream which is the signal accessed by mobile and remote devices. These streams run in parallel with the main stream sent to the hard drive and they do not affect each other.



PICTURE 3-11

Type – You are able to change the recording quality based on the type of recording taking place. For instance, you may have the NVR record at a slower frame rate and/or resolution during Regular recording to save disk space with the system switching to a higher resolution and frame rate when the system detects motion or an alarm triggers an event. Your selections in the pull down are; Regular, MD (Motion Detection) or Alarm.

Compression – The default setting is H.264, which is an industry-standard format that greatly reduces the file size of recordings while maintaining the maximum amount of visual clarity. It cannot be changed.

Resolution – This is generally dependent upon the camera connected to the NVR. When the NVR connects to a camera it'll determine the maximum resolution. You can always set this to a lower value. In the Extra Stream, the resolution will be much less - the 320x240 pixel CIF resolution - to allow the video feeds to be uploaded.

Frame Rate (FPS) – Like Resolution, this is dependent upon the camera. It is variable between 1 to 30 frames per second. The higher the number, the smoother the playback.

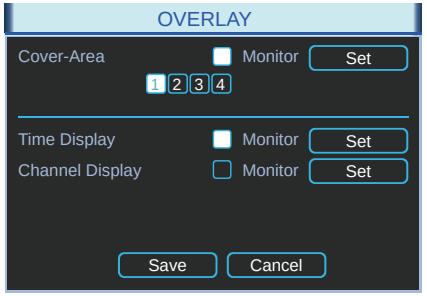
Bit Rate Type – Variable versus Constant. Variable provides better compression, but issues may arise when streaming for remote viewing.

Bit Rate (KB/S) –Also based on the camera that is connected to your system, this is the maximum bit rate the selected channel can utilize. You may use the options provided, or you may customize the bit rate to best suit your network's capabilities. Your network may not have enough bandwidth to handle maximum rates from all of your cameras. Adjusting these settings to suit your network will improve performance and on-screen image quality.

NOTE! Generally, the trade-off for higher quality and increased frame rate is the amount of room a video file will take on the drive along with how much "bandwidth" the signal takes up within the system. The larger the files, the sooner the hard drive will fill up. Setting the drive to overwrite older files will allow you to maximize the capabilities of your system and cameras.

Audio/Video – Set by default to enable your system to send both video and audio feeds (audio requires a microphone located at or near the camera) to your Extra Stream for use by mobile and remote devices. Disabling a channel can be done to prevent remote users from accessing a specific camera, but this is better handled in **Account** (see **Section 4.5 Advanced Settings**).

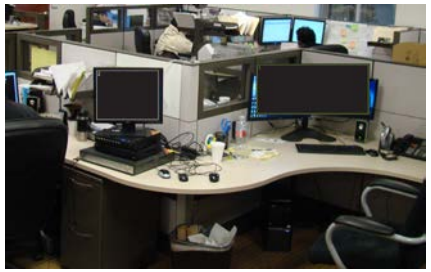
Overlay – This window allows you to configure on-screen displays from the camera as well as providing the ability to mask off areas from view. This latter feature is useful in circumstances such as when a camera's field of view includes a combination lock or other similar situation. The local user will be able to view the area but remote viewers cannot see the area. These privacy blocks affect both the live view and playback.



PICTURE 3-12

Cover Area - Clicking the **Monitor** button will reveal four numbered buttons. These are the four on-screen areas that you can set to cover.

Click **Set** to reveal a live view of the camera's feed. There will be a numbered area on the display which can be moved and re-sized. You can deactivate any of these areas by deselecting the numbered button.



PICTURE 3-13

Both time and channel display show content from the IP cameras, rather than the NVR. In addition to having their own clock, each camera also self-identifies. The default for this is "Channel 1". This can be changed using the included **PSS** software (see the **PSS User Manual** included on the **Manuals and Software** disk) but we have set the NVR to not display the names by default. Instead, it will show the NVR's internal channel identification which will not appear during playback.

Time Display – This allows you to display the system time on the channel's screen during playback or not. In addition, by clicking the **Set** button, the time display can be relocated anywhere on the screen by clicking and dragging. A "Before" and "After" example is shown in **Picture 3-14**.

PICTURE 3-14

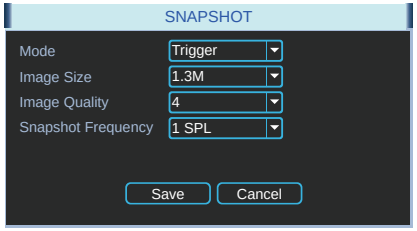
Channel Display – Like time display, this toggles the appearance of the channel's number on the screen during playback as well as allowing it to be repositioned in a similar fashion.

Snapshot

In addition to taking video of an event, the NVR can be set to record - and transmit - still images from whichever cameras are enabled in the **Schedule** window (next pages).

The actual settings for the Snapshot feature are configured in the **Snapshot** window which can be opened by clicking on the **Snapshot** button at the bottom of the **Camera Setting** window.

Mode - You can chose to have the NVR take snapshots on a set schedule using Timing, or when Triggered by an event such as motion detection or alarm input.



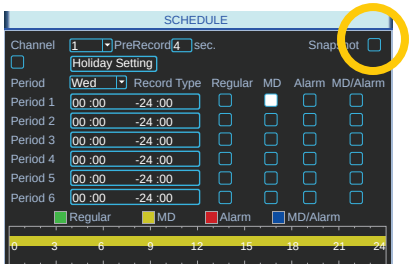
PICTURE 3-15

Image Size - The image size depends upon the capabilities of the camera, but they are listed in descending order of size in the pull-down. Obviously, the higher the resolution, the larger the file. You can chose to use a different format for snapshots than the format that camera is configured to record video.

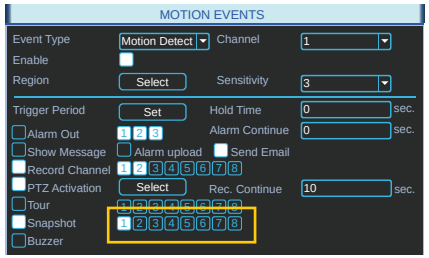
Image Quality - With a range of 1 to 6, this controls the quality of the snapshot(s). A setting of "4" provides better images, but at an increased file size. You may have to lower the quality if the file size exceeds your e-mail in-box's capacity.

Snapshot Frequency - This will allow you to take 1-7 shots in sequence.

Each camera can be individually configured. These settings are what will be used when you enable the **Snapshot** feature in any window that offers that option. Examples are highlighted in yellow in **Pictures 3-16** and **3-17**.



PICTURE 3-16



PICTURE 3-17

SCHEDULE

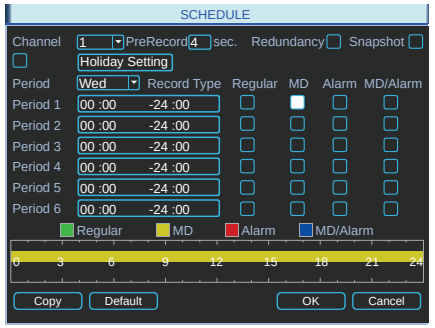
The **Schedule** menu allows you to determine when your cameras will record and under what circumstances. While the settings in this menu can be generally overridden by the user in the **Record** menu, the settings made in the **Schedule** menu are more detailed and flexible.

Channel – The first setting is which channel you wish to configure. In addition to selecting a channel number, you can globally configure all of your cameras by selecting the **All** option.

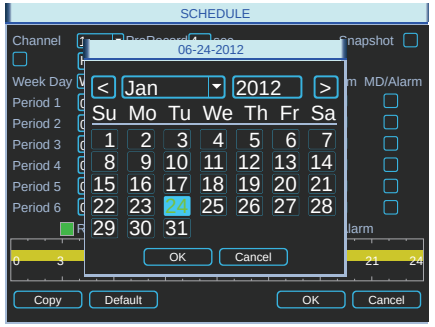
Pre-Record – This allows you to capture the moments before an event occurs. You can set the lead time from 1 to 30 seconds depending on the bit stream you are recording at.

Redundancy – This will only appear if your NVR has more than one hard drive installed. When you enable this setting, the NVR will create a backup copy of an event recording on the second hard drive.

Snapshot – By selecting this feature, you enable the NVR to take a still image "snapshot" when an alarm occurs. This snapshot is for uploading to an FTP site. Snapshots for e-mail attachments are set under the **Record Setting** and **Alarm** menus. (See **Sections 3.4** & **4.3** respectively.)



PICTURE 3-18



PICTURE 3-19

NOTE! It is possible to have the Snapshot feature set to occur both on schedule and when triggered by an event such as Motion Detection. The triggered activation will take priority over the scheduled event.

Holiday Setting – You are able to set up a recording schedule that will be utilized on any day that you set as a holiday in the calendar accessible through this button. This schedule can be different from weekday and weekend schedules.

Period – You are able to set a recording schedule that will apply to specific days, to weekdays or weekends in general, to holidays, or a blanket schedule that applies to every day. Use the pull-down to select which day(s) you wish to apply a particular schedule.

Record Types – You can schedule which type of recording occurs at what time of the day. There are six blocks of time that can be scheduled, and the duration of those blocks can be determined as well. There are four types of recordings that can be made; **Regular** (always recording), **MD** (motion detection) which is the NVR's default setting, Alarm and a combination of Motion and Alarm.

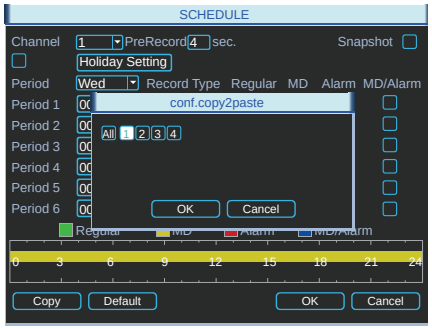
A white-filled box underneath a **Record** type indicates that it has been selected for that block of time. If no boxes are selected, that camera will not record although you will be able to see its video feed in **Live View**.

NOTE! Motion Detection can also be set up in the Motion Events menu as described in **Motion Video Loss and Camera Masking Detection**, below. If you need the NVR to do more than just record motion events, then follow those instructions. You do not need to set up motion detection in both menus.

You may set more than one type of recording to occur at the same time but it should be noted that when regular recording is selected, the NVR will be already be recording whether a Motion Detection event occurs or not.

Copy – This allows you to duplicate a channel's setting and apply them to another channel. When you click on the **Copy** button the **Copy2Paste** popup window will open allowing you to select which channel(s) you wish to apply the settings to.

Default – Returns your NVR's recording settings to the factory default of recording all the time.



PICTURE 3-20

You must check the **OK** button to apply your settings. Right-clicking or hitting **Cancel** will leave your settings unchanged.

ALARM

The use of alarms with your DVR is covered in **Chapter 6 Alarms**.

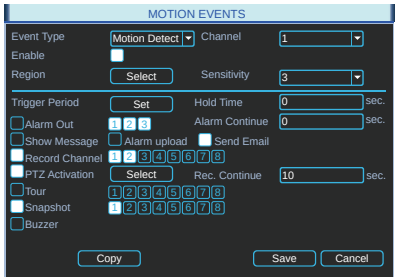
MOTION, VIDEO LOSS AND CAMERA MASKING DETECTION

The DVR can be programmed to alert the user - and take specific actions - when motion is detected, the NVR loses connection to a camera or someone is physically covering a camera. The responses to these events are found in the **Motion Event** menu. Each channel can be individually configured to respond to each event as you chose, or you can give all cameras identical settings.

The upper portion of this window is for setting the type of event, whether it is activated, and specific parameters relating to event detection. The bottom portion of this window allows you to choose how the system will respond to these events.

Motion Detection

With the **Event Type** drop-down set to Motion Detect, you can configure your NVR to record when someone or something moves through a camera's field of view. Please note that this is an alternate way to schedule motion detection to the method laid out in the previous pages.



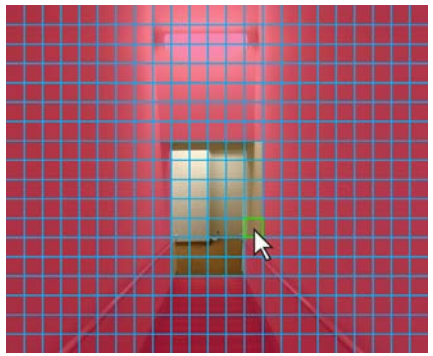
PICTURE 3-21

This menu offers further refinements including what actions the NVR will take when motion is detected. Such actions include having other cameras begin recording, how long they'll continue to record and even whether cameras will take still image snapshots and e-mail them to selected addresses. You do not need to set up Motion Detection in both sections but the NVR will use the schedules from both menus to determine when to record Motion events.

Channel – You can select an individual channel to configure or select **All** to give all of your cameras the same settings. You must have set that channel to record motion detection in the **Schedule** menu as described in the previous section.

Region – Clicking the **Region** button will bring up a grid overlaying that camera's view.

By default, each "block" of the grid will have a red hue indicating that it is sensitive to motion detection. Clicking in a block will make it clear meaning that motion detection has been turned off for that area. Turning off motion detection in selected areas is useful for situations when there is frequent movement by inanimate objects such as flags or wind-blown trees and this will reduce false alerts. You can click and drag the mouse to turn off multiple blocks at the same time and you can deactivate motion detection in multiple, separate, areas of the screen.



PICTURE 3-22

To reactivate motion detection, simply repeat the process in the deactivated blocks and they will regain their red hue and detect motion as normal.

You cannot use Copy/Paste in **Motion Detection** because each channel will have a different display. Right-clicking will exit the screen and your settings will be saved.

Sensitivity – The system supports six levels of sensitivity with Level 6 being the most sensitive.

Video Loss

By default, this is enabled. In the event that the NVR detects a loss of signal from a camera, it will send out a notification or activate other functions based on your settings in the lower portion of the **Event** window.

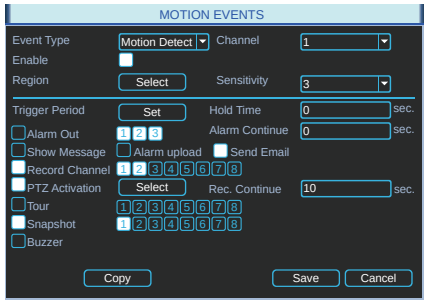
Camera Masking

This is also enabled by default. If the system detects that something has covered a camera, it will respond based on your settings in the lower portion of the window.

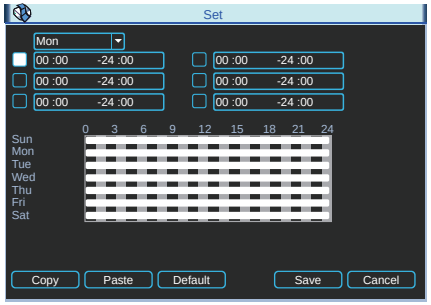
Event Response

The lower portion of the **Event** window determines what actions the NVR will initiate upon detection of one of the three event types. Responses to a specific type of event can be individually tailored to each camera, but the response to different types of events must be set independently of each other. (ie: The response settings for a motion detection event do not change the settings for a video loss event – even if you've set identical responses.)

Trigger Period - This is where you set the schedule of when you want the NVR to record motion events. It operates in the same manner as the **Schedule** menu as described in **Section 3.4** with six blocks of time that can be laid out for recording to occur during a day. Not all blocks have to be configured or enabled. You can configure each day individually, or you can make separate schedules for week days and weekends.

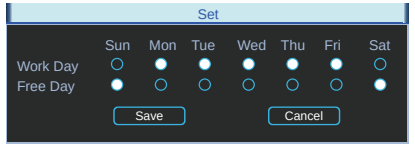


PICTURE 3-23



PICTURE 3-24

The **Set** button will appear when either **Work Day** or **Free Day** is selected in the drop-down. This allows you to arrange the schedule to reflect your business' weekly schedule.



PICTURE 3-25

The **Copy** and **Paste** buttons allow you to duplicate a day's settings on another day while the **Default** button returns the NVR to recording Motion Detection events 24/7.

Once you have made your settings, select **OK** to save them and you will be returned to the **Event** menu. Hitting **Cancel** or right-clicking to exit the menu will not save your changes.

Hold Time – This is the length of time that the NVR will watch for another motion event before treating a second event as a separate alarm. The delay can be from 0 to 600 seconds (10 minutes).

Record Continue – The NVR will continue to record for a period after the event has ended. This can be set to last up to 5 minutes.

Show Message – When this is enabled, the system will bring up the **Alarm Status** window whenever an event is detected. You can configure this to display when motion, video loss or masking is detected.

Alarm Upload – Your NVR can upload an alert message to the FTP server. Please see **Advanced Network Setup** in **Section 1.2 of the Remote Monitoring Guide** for instructions on setting up the NVR to work with an FTP server.

Send E-mail – E-mail notifications can be sent a single e-mail address. Please see **Advanced Network Setup** in **Section 1.2 of the Remote Monitoring Guide** for instructions on how to set up the e-mail alerts including recipient address.

Record Channel – When one camera detects an event, you can set the NVR to activate recording on other cameras.

PTZ Activation – When selected, this will cause a connected Pan-Tilt-Zoom camera to perform a pre-set action. This would be the first action programmed for the camera in the PTZ menu. Please see **Chapter 5** for instructions on setting up a PTZ camera.

Tour – This will cause the NVR to cycle through selected channels on the display in live view.

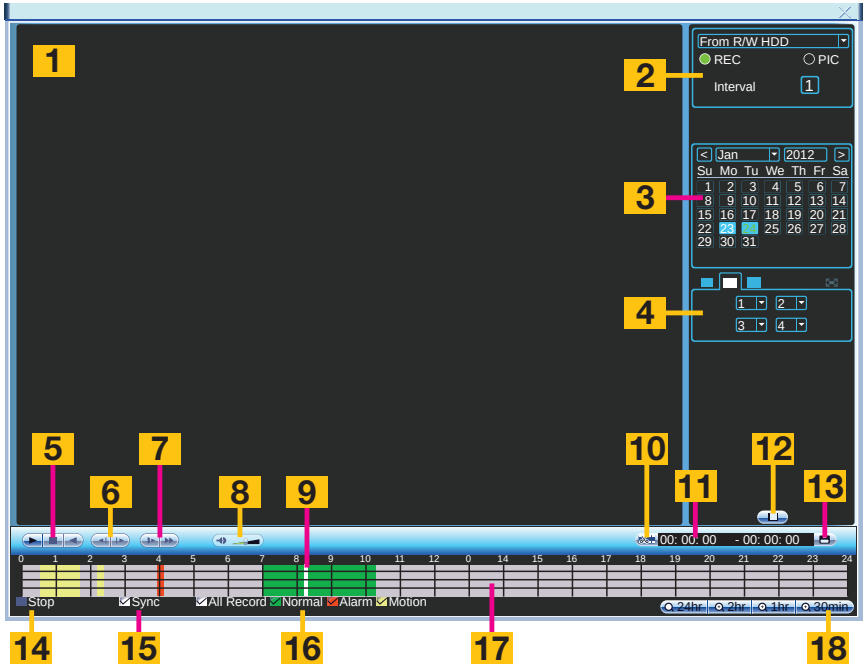
Snapshot – The NVR is capable of taking still images which can be sent via e-mail or FTP (See **Advanced Network Setup** in **Section 1.2 of the Remote Monitoring Guide** for full instructions.)

Buzzer – When selected, the NVR's internal alarm will sound when an event occurs.

3.5 SEARCH AND PLAYBACK

The **Search and Playback** window can be accessed through the **Shortcut menu**. You can view the playback from any camera that was activated during the recording session. You are also able to view the playback from multiple cameras simultaneously.

As your NVR will have begun recording video from the cameras from the moment they were connected and movement was detected, you may wish to familiarize yourself with the Search function at this time since it will be simple to locate a specific video from the small number that will have been recorded.



PICTURE 3-26

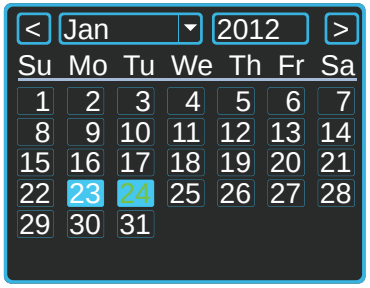
#	Item	Function
1	Playback Window	Displays the video from one or more channels
2	File Source/Type	You can chose to search for videos or snapshots recorded on the hard drive or an external USB device.
3	Calendar	Shows dates that contain recordings
4	Screen Display Mode	Select the number of screens to display simultaneously. You can also select which screens are played back.
5	Play/Pause	Play video forward or backward.
6	Frame Advance	Each click advances or reverses the playback by one second.
7	Slow/Fast Play	Speed up or slow down playback. Four speeds each.
8	Volume	Adjust playback volume. Requires a microphone equipped camera or microphone co-located with a camera and connected to the NVR.
9	Playback Indicator	Shows the progress of the video playback.
10	Create Video Clip	Set the start and end points within a video to create a shorter video clip.
11	Time Indicator	Shows the start and end points of the video clip.
12	File List Search	This allows you to search for a video occurring around a specific time.
13	Backup	Save the video clip to a removable USB flash drive or external USB hard drive.
14	Status Indicator	Indicates video playback status - playing, paused, etc.
15	Sync	When unchecked, allows simultaneous playback of different channels starting at different points in time.
16	Record Modes	Allows selection of which type of video recordings to search.
17	Video Indicator and Progress Bar	Shows the time period(s) that video was recorded, along with the recording mode of that video.
18	Time Scale	These adjust the scale of the Video Indicator and Progress Bar from 24 hours down to 30 minutes.

SEARCH

There are two ways to search for an event - by recording block and by starting time in the **Event List**:

Recording Block Search

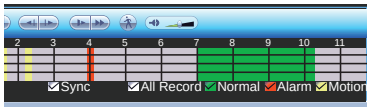
STEP 1. The calendar in the upper right of the **Video Search** window will show dates containing recorded video in blue.



PICTURE 3-27

STEP 2. Color-coded blocks indicating recorded video will appear in the **Video Indicator and Progress** bar.

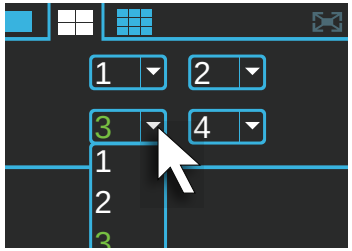
STEP 3. Click on a recording block to begin playing back from that time, or you can click on the **Start** button to commence playback from the first video recorded that day.



PICTURE 3-28

STEP 4. If needed, you can further refine the search to specific channels by choosing a single- or multiple-channel display format and then selecting the desired channels to view simultaneously using the pull down menu.

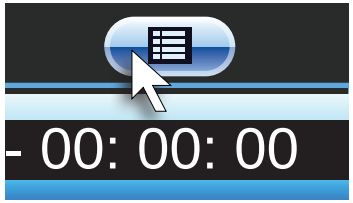
Additionally, you can check or uncheck the colored boxes below the **Video Indicator and Progress** bar to choose which types of record (Motion Detection, Alarm, etc.) you're interested in.



PICTURE 3-29

STEP 5. Once you have refined your search parameters, click on the **Search** button to refresh your results.

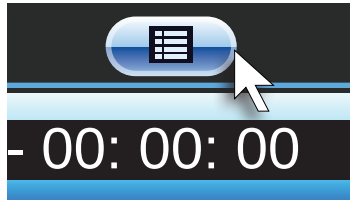
You can then start your video playback as described in **Step 3**, above.



PICTURE 3-30

Event List Search

This search format allows you to easily find a specific event and play it back on a single channel. If an additional channel recorded during that time, its video will play as well.



PICTURE 3-31

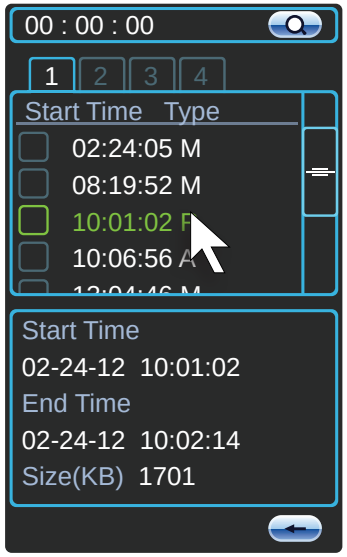
STEP 1. As with Recording Block Search, use the calendar in the upper right of the of the **Video Search** window to locate dates with video records.

STEP 2. Click the **Event List** button to bring up a list of recorded events. They will be listed in order of starting time and will have a one-letter code after the time to indicate the event type:

R = Regular recording

A = External alarm triggered recording

M = Motion detection recording



PICTURE 3-32

STEP 3. Each channel will have a tab showing when video events were recorded by that camera. You can start playback of an event by double-clicking on it. The Playback Indicator (a vertical white bar) will appear in the Video Indicator and Progress bar at the corresponding point. You can adjust the playback using the controls as normal (see **Playback** on the following page).

The **File Information** window below the file list shows details about that particular clip.

STEP 4. You can refine your search by entering a more exact time above the list and then clicking the **Search** button (magnifying glass). This will refresh the list and eliminate events occurring before that time.

Using the playback controls will close the **Event List**, but you can return to it without losing the search results. You may also exit the **Event List** by clicking on the arrow below the **File Information** window.

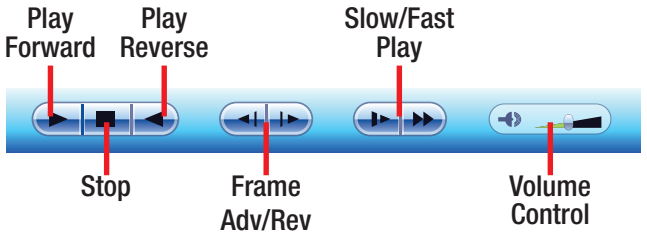
PLAYBACK

Once you've selected your video(s), you can control the playback in the same manner as using a VCR or computer's media playback software. The playback interface includes features that add an extra level of control, including the ability to play in reverse as well as forward, frame-by-frame movement and multiple playback speeds. Certain buttons will be grayed out depending on the playback mode.

Double-clicking on a screen in a multi-channel display format will switch to a single-channel display. Double-clicking again will enlarge it to full screen mode, hiding the Search area on the right and the **Video Indicator and Progress** bar below, although the latter will pop up if the mouse is moved to the bottom of the screen. Double-clicking a third time will revert back to the multi-channel display mode that you had selected. Right-clicking when in single screen or full-screen mode will reverse the process. Right-clicking while in your original viewing mode will end the video playback.

In most circumstances, the control buttons affect the video on all screens in a multi-channel display. Unchecking the **Sync** box at the bottom of the screen will allow independent control of each channel. In this case, the controls will only affect the screen highlighted in green. Click once on a camera's view to select that channel. It should also be noted that certain functions only work - or work best - in single-channel viewing mode.

PICTURE 3-33



PICTURE 3-34

Start, Stop and Play

Clicking either of the **Play** buttons will start the playback in the desired direction. The button's icon will change to a **Pause** icon to allow you to freeze the playback as needed. If you have **Sync** unchecked, clicking **Stop** will end the playback of the video in the selected screen while any other videos will continue to play. Otherwise, **Stop** will end the video playback on all screens.

Frame Advance/Reverse

These buttons are only active when the playback has been paused. They allow you to move forward or backward in 2-second increments.

Slow/Fast Play

There are four speed settings for each button. Clicking these buttons will increasingly slow or speed up the playback as appropriate. When the after the fourth setting is reached, a subsequent click will return the playback to normal speed. You can also decrease the effect of one button on speed by clicking the other. Example: With playback set on "Fast 3", you can slow it down to "Fast 2" by clicking on the **Slow Play** button.

Volume

If you have a microphone-equipped camera or a microphone co-located with your camera you can play back any audio that was recorded along with the video. Adjust the volume with the slider as needed.

DIGITAL ZOOM

Digital zoom in video playback operates differently than it does in Live View as described at the beginning of this chapter. Both are digital zooms where the image is electronically enlarged - usually in exchange for a decrease in image clarity. You can digitally enlarge an area of a video by clicking and dragging with the cursor on the area of interest. This action will draw a green rectangle on the screen. When you release the mouse button, the cursor will change to a magnifying glass.

Click within the border to zoom into the area. If you need to re-draw the box, merely click outside the area to dismiss the box and then re-select the area.

In the case of a multi-screen viewing mode, the zoomed-in view will fill only that portion of the screen occupied by that channel. You can switch to single-screen mode by double-clicking on the screen as described earlier. You can also go to full-screen mode and back to multi-screen mode as well. Right-clicking with the mouse will return you to the full channel view.

PICTURE 3-35

VIDEO CLIP

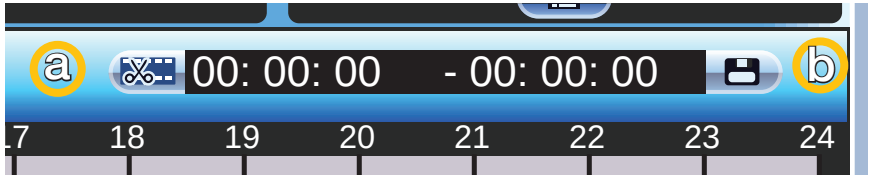
This allows you to save only a portion of a video clip. For example; if you have a camera set to record all the time and it captures some action in a five-minute segment, you can clip only that portion and back it up. In addition to making an incident readily available, saving only the portion of interest will reduce the amount of disk space needed to back it up.

STEP 1. Select a file to view in the normal manner.

STEP 2. Find the section of interest and press the **Clip** button (a)

STEP 3. Drag the playback bar to the end of the section, or allow the video playback to progress to the desired endpoint and press the **Clip** button again.

STEP 4. Press the **Backup** button (b) to save the file to a USB drive connected to the USB back-up port on the front of the NVR. It is not possible to save the edited clip to the NVR's hard drive.



PICTURE 3-36

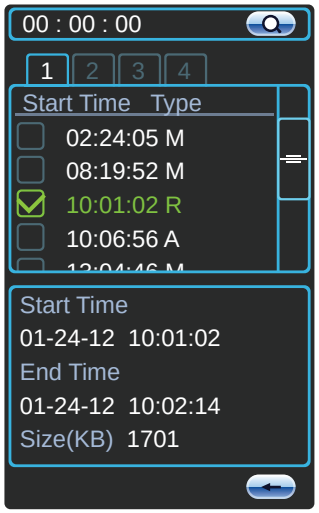
BACK-UP

This process is different than the backup procedure described in **Section 3.6 Backup** at the end of this chapter where one can back up saved files located across multiple days. Instead, this procedure allows you to quickly save files or clips that you have located without having to search for them again. Once you have backed up these files to an external USB device they can be played back on a computer.

You must have a USB device connected to the USB port on the front of the NVR before proceeding.

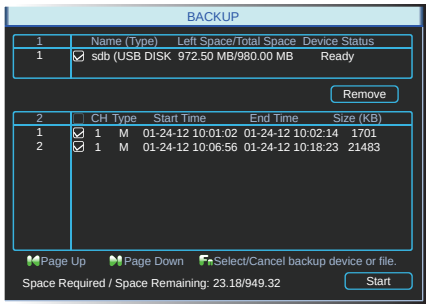
STEP 1. In your file list to the right of the playback screen, check the box next to the file(s) you wish to save.

STEP 2. Click on the **Backup** button (**item b in Picture 3-36**) and the **Backup** window will open.



PICTURE 3-37

STEP 3. Your device will be listed at the top of the window showing how much space is available. Below it, the list of file(s) you wish to back up will be displayed along with type, start and end times and size. At the bottom of the window, the space required to save the file(s) will be displayed. You may uncheck any files you do not wish to back up at this time. The Remove button will remove all the files from your list.


BACKUP
Name (Type) Left Space/Total Space Device Status
sdb (USB DISK 972.50 MB/980.00 MB Ready
Remove
CH Type Start Time End Time Size (KB)
1 M 01-24-12 10:01:02 01-24-12 10:02:14 1701
1 M 01-24-12 10:06:56 01-24-12 10:18:23 21483
Page Up
Page Down
Select/Cancel backup device or file.
Space Required / Space Remaining: 23.18/949.32
Start

PICTURE 3-38

STEP 4. Press **Start** to back up your selected files.

Right-clicking the mouse will exit this window without saving the files.

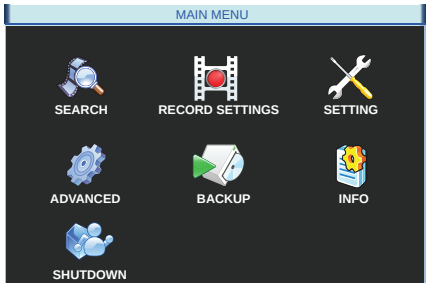
NOTE! The video files are in a proprietary format that will not play outside the NVR without being converted to .avi format using the included General Player software included on the Manuals and Software disc that came with this NVR or available for free download at Q-See.com by searching for your model number and looking under Software.

Right-clicking with the mouse will exit the playback window.

3.6 BACKUP

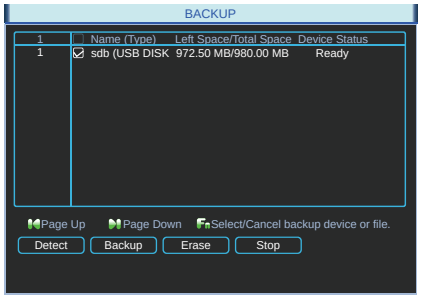
This NVR supports backing up files from the hard drive to both an external USB storage device as well as over a network. Network downloads are covered in the **Remote Monitoring Guide**.

The **Backup** menu can be reached through the Main menu.



PICTURE 3-39

The **Backup** window will display any connected devices along with available space and status. If you have a device connected to the USB port on the front of the NVR and it does not appear, press the **Detect** button. If it still does not appear, then use a different USB device.

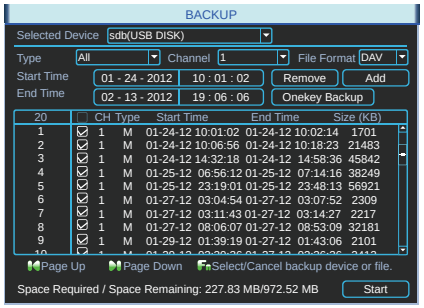


PICTURE 3-40

NOTE! External USB hard drives used for backing up data will need to be in the FAT32 format. Most new drives will need to be reformatted before use with this DVR. Formatting instructions are provided at the end of this chapter.

Once an external USB device is detected, pressing the **Backup** button will open a new window allowing you to select which files to back up. You can select by channel, start and end times, as well as which type of event; regular recording, alarm, motion detection or all of them.

Only files with a check mark in front of them will be backed up. You can deselect whichever files you choose or select them all by selecting the box at the top of the list.

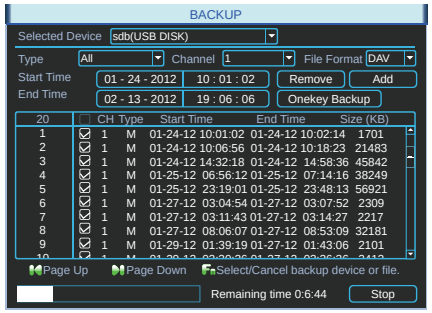


PICTURE 3-41

If you need to clear space on your external drive, you can use the **Erase** button. This will delete **ALL** files on that device.

Once you have selected the files, press **Start** to begin the download. A progress bar will be displayed showing estimated time remaining. During the download, the **Start** button will change to **Stop**. You can stop the process at any time by pressing the button again.

You can also right-click out of the menu once the file transfer has begun to go on to other activities without cancelling the download.



PICTURE 3-42

The files will be saved with the following naming format:

SN_CH(channel number)_TYPE_TIME(Year, Month, Date, Hour, Minute, Second)

Therefore, a file shown on the DVR as being a regular record (R), being recorded on 01/04/11 starting at 2:00:00 would have a file name of:

1_01_R_010411020000.dav

The Year Date Month format is the same as you have set in the **General** interface. The files can be played back using the software included on the CD accompanying this NVR.

FORMATTING A USB DRIVE IN FAT32

To format a USB flash drive with FAT32, plug it into a PC running Windows XP or later. Go to **My Computer** to locate the drive's icon. Right click on it and select **Format** in the list of available options. Select **FAT32** and check the box marked **Quick Format** before clicking **Start**.

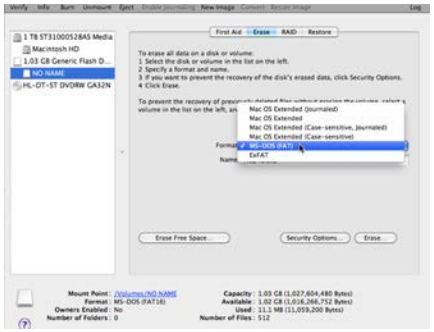
For USB drives over 32GB in size, you should use a FAT32 format utility such as those available through ***CNET.com***.

On a Macintosh computer, you will need to reformat the USB flash drive using the Disk Utility app located in the Utilities folder within the Applications folder. Connect your drive to a USB port on the Mac and it should appear in the list on the left of the window.

Select your drive from the list, making sure that it is highlighted before proceeding.

In OSX 10.6, you can set the format to MS-DOS (FAT) in the **Erase** tab. In OSX 10.7, you will use the **Partition** tab.

Click the **Apply** or **Erase** button, depending on your system, to reformat the USB drive



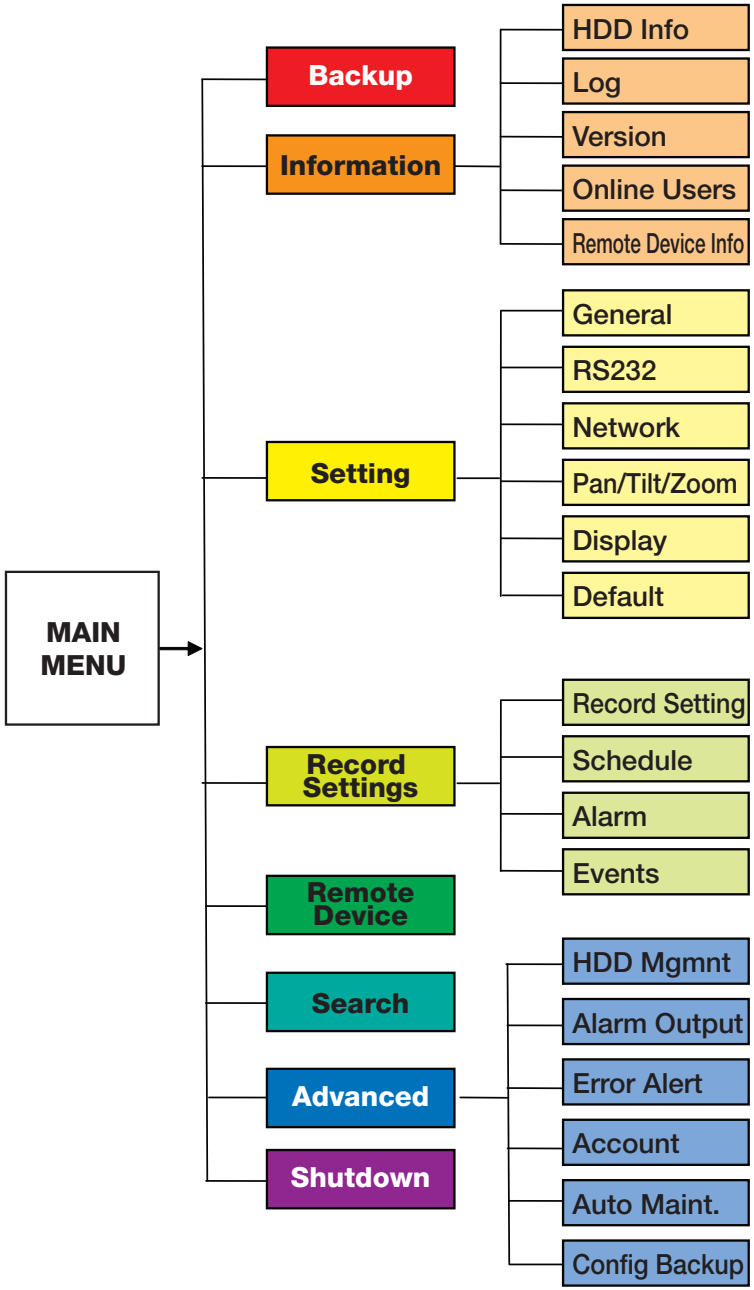
PICTURE 3-43

IMPORTANT! Reformatting a drive will erase ALL data on the drive!

MENUS

CHAPTER 4

Once you're ready to move beyond basic operation, the other menus in the system will allow you to configure the NVR to your individual needs.

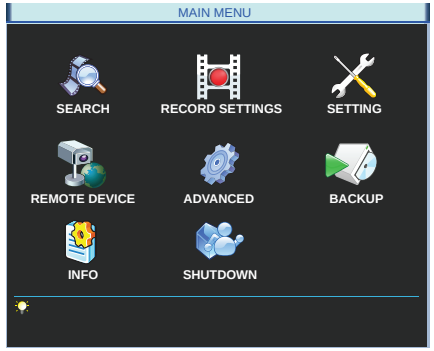


4.1 MAIN MENU

The **Main Menu** can be accessed at any time from the Live View by right-clicking the mouse and bringing up the **Short Cut Menu**. Pressing the **Return** button on the side of the NVR will also bring up the **Main Menu**.

There are eight submenus available; **Search**, **Record Settings**, **Setting**, **Remote Device**, **Advanced**, Backup, **Info** and **Shutdown**. Clicking on an icon will take you to that function or the submenu it represents.

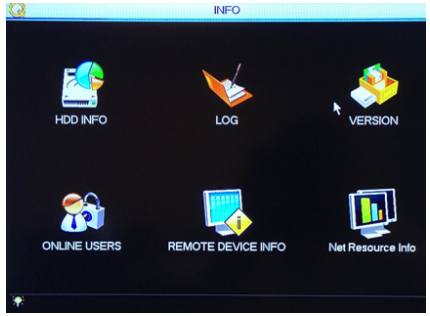
The **Search** menu is covered in **Section 3.5 Search and Playback**.



PICTURE 4-1

4.2 INFO MENU

Double-clicking on the **Info** icon will open the Info window. There are either five or six options depending on your model: **HDD** (Hard Disk Drive) **Info**, **Log**, **Version**, **Online Users**, **Remote Device Info** and **Net Resource Info**.



PICTURE 4-2

HDD INFORMATION

This window displays information on the type, size, available space and status of the system's internal hard drive.

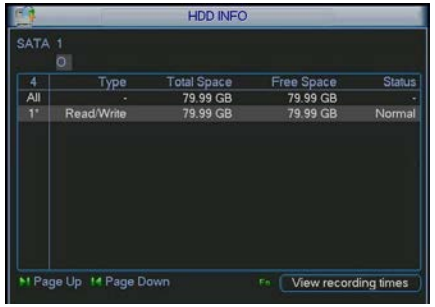
The system supports a single A/V-rated SATA hard drive and it will be designated SATA 1. Below the drive name is the drive status indicator.

"O" Drive is operating normally.

"X" Indicates an error

"-" Hard drive not installed

"?"Hard drive is damaged



PICTURE 4-3

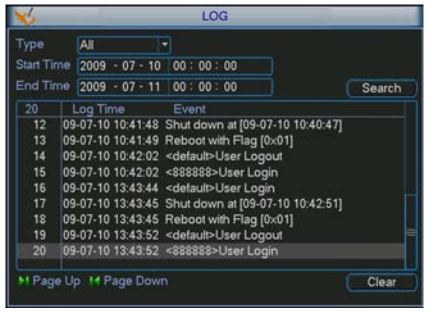
In the case of a hard drive error, the system will come directly to this menu. An error may be indicated if the hard drive time and system time do not match. To resolve this issue, adjust the time in the **General setting** menu located in the Setting menu (See **Section 4.3**) and restart the system. Formatting the drive, using **HDD Manage** as described in **Section 4.4 Advanced** is another possible solution to drive errors.

If the drive is damaged or missing, you will need to install a drive. Please see **Chapter 6** for hard drive installation instructions.

Select **View Recording Times** to show files recorded on the NVR.

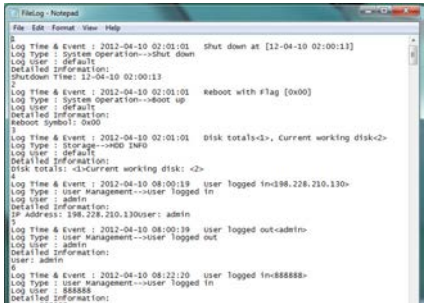
LOG

Any activity on the NVR is logged and recorded on the system. This information can be viewed and searched from this window.



PICTURE 4-4

Information on user access, system shutdowns, changes in recording status, video loss and etcetera are listed. You can search for activity in a similar manner to the file search. This information can be backed up to an external USB drive in the same manner as video files and it will be saved as a text document that can be opened by a word processor, NotePad or other text reader application.

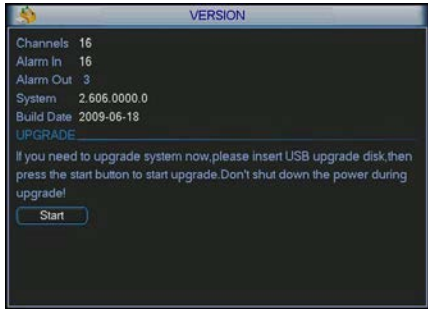


PICTURE 4-5

VERSION

This display shows system hardware and firmware specifications.

The hardware data shows the number of channels the system is configured for along with the number of alarms in and out that can be utilized. The system's serial number is also displayed, along with the version and build date of the firmware.


VERSION
Channels 16
Alarm In 16
Alarm Out 3
System 2.606.0000.0
Build Date 2009-06-18
UPGRADE
If you need to upgrade system now,please insert USB upgrade disk,then press the start button to start upgrade.Don't shut down the power during upgrade!
Start

PICTURE 4-6

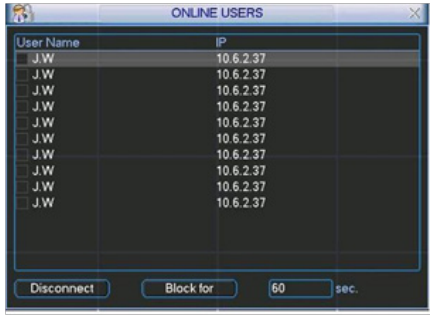
You can update the firmware using this menu. Check your product's page at ***www.Q-See.com/Support*** to see if you have or need the latest version of the firmware. If your system is operating without problems, we recommend that you do not update the firmware unless there is an added feature that you need. To update the firmware, you must download the file from our website and save it onto a removable USB drive that is otherwise empty. Connect the USB drive to the port on the front of the NVR and press **Start**.

ONLINE USERS

A list of users accessing the NVR from over the network or through the Internet is shown in this menu.

The user's name as well as the IP address used to access the NVR is displayed.

If you have proper system management rights (Configured in **Account**, See **Section 4.4 Advanced** for full instructions), you can disconnect or block a user. The maximum time a user can be disconnected is 18 hours (65,535 seconds).



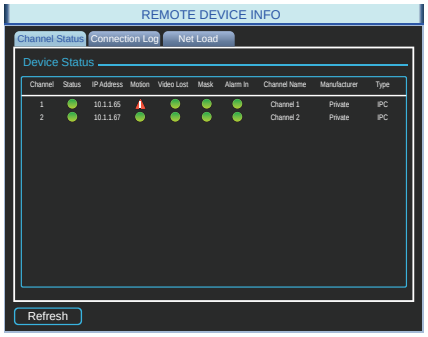
PICTURE 4-7

REMOTE DEVICE INFO

This menu has three tabs to provide you with information about the status (past and current) of the devices connected to your NVR. As the name implies, these windows only provide information and no settings can be made or changed within them.

Channel Status

When selected, this tab shows the current status of all connected cameras, including their IP address, the name you've assigned it, the manufacturer and the model. Icons will indicate the "health" of the camera and any alerts that it is operating under, such as motion being detected.

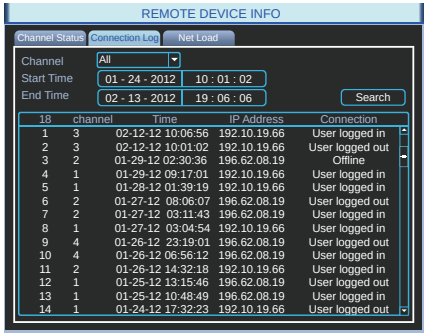


PICTURE 4-8

Connection Log

Like the **Log** menu discussed earlier, this tab documents activity on the devices connected to your NVR. It'll show when users logged into or out of a particular camera, or when that camera was offline.

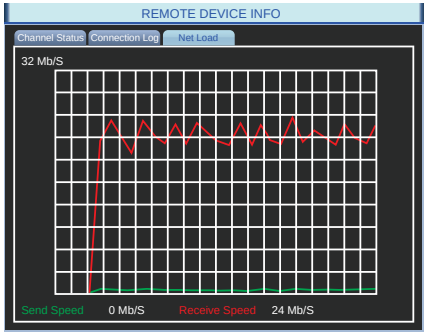
By default, this window will display a summary of all activity across all channels upon opening. You have the option to search by a specific time period and channel by setting the criteria and pressing **Search**.



PICTURE 4-9

Network Load

You can track the traffic load of your system on your network in real time by clicking on this tab. It displays both upload and download speeds to and from your NVR graphically and numerically.



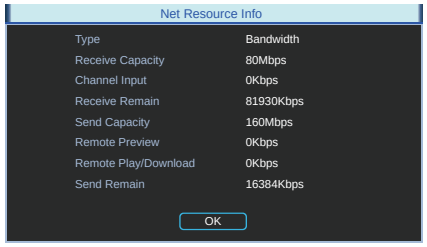
PICTURE 4-10

NETWORK RESOURCE INFO

This window shows the network activity of your NVR. While the **Network Load** tab covered previously shows the upload and download speeds, this window shows the communications between your system and the network and how they rate compared to the NVR's capacity.

If either send or receive capacities are reached, video may not stream smoothly either to the NVR or to remote users attempting to access video from the system.

The first three subjects are related to incoming data - and each other.



PICTURE 4-11

Receive Capacity - This is the total bandwidth your NVR has to receive data from your cameras. Please note that it is shown in terms of Megabits per second (Mbps) or 1 million bits per second.

Channel Input - This is the amount of data coming from all cameras. The more cameras connected, the higher this number will be. This is displayed in Kilobits per second (Kbps) which is 1,000 bits per second, or about .001Mbps. If you are having problems with video streaming at a smooth rate, you may need to adjust the frame rate or resolution of one or more cameras. See **Camera Settings** in **Section 3.4** for instructions.

Receive Remain - This is the remaining capacity that the NVR is able to receive.

The remaining four subjects relate to how much data the NVR can send and how much data it is currently uploading.

Send Capacity - This is the total bandwidth that the NVR can stream to the network.

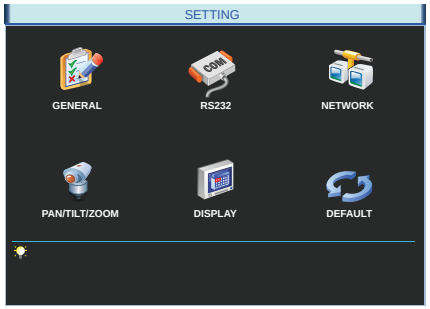
Remote Preview - This shows how much bandwidth is being used by remote users watching the live feed from the NVR.

Remote Play/Download - Recorded video being played back or downloaded for backup is shown separately from live viewing in this field.

Send Remain - This shows any additional capacity that is currently available after subtracting remote live viewing, playback and downloading.

4.3 SETTING MENU

Double-clicking on the Setting icon will open the **Setting** menu window. This menu contains a number of the settings that are not related to recording video, but rather affect how the NVR operates in general. Additional settings are available in the **Advanced** menu covered in **Section 4.5**. Available interfaces are: **General**, **RS232**, **Network**, **Pan/Tilt/Zoom**, **Display** and **Default**.



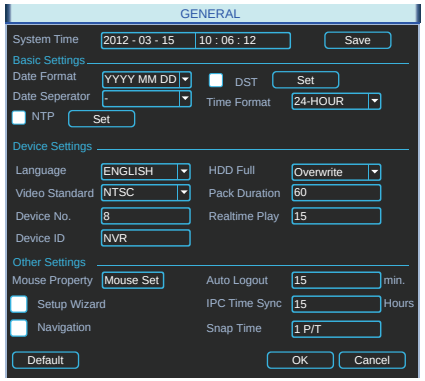
PICTURE 4-12

GENERAL

This window is where the basic settings for the NVR are configured. They are divided into three general categories. Your settings will be saved when you click **OK** to close the window.

IMPORTANT! You **MUST** stop all recording before changing the date or time.

System Time – Set the date and time and click the **Save** button to the right before continuing with the rest of the settings in this window.



PICTURE 4-13

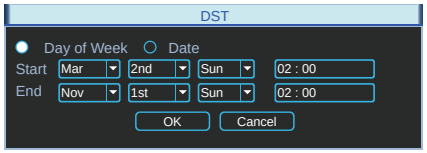
Basic Settings

Date Format – Choose from Year-Month-Day, Month-Day-Year or Day-Month-Year

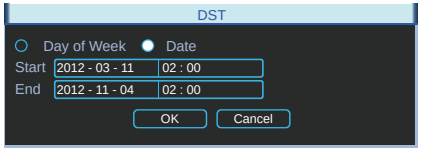
Date Separator – The three options are a dot (.), dash (-) or slash (/)

DST – This allows you to set up Daylight Savings Time so your system will automatically reset the time when it begins or ends. You can set it to change on a specific date, or on the first Sunday in a particular month, for example.

Time Format – Chose between 24-hour (military-style) or 12-hour (AM/PM) formats

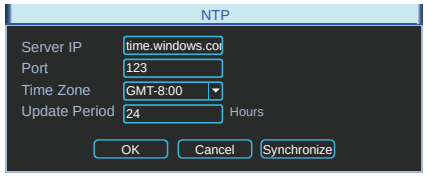


PICTURE 4-14



PICTURE 4-15

NTP – This stands for Network Time Protocol which is allows an NVR that is connected to the Internet to automatically maintain accurate time - including adjustments due to Daylight Savings Time - in the same way that a computer does.



PICTURE 4-16

Server IP - The default server used to obtain accurate time is the Windows server, but you can manually enter in another.

Port - This is the port that the NVR will use to contact the server.

Time Zone - You will need to set your time zone. For North America these are:

Eastern Time Zone = GMT-5	Central Time Zone = GMT-6
Mountain Time Zone = GMT-7	Pacific Time Zone = GMT-8
Alaskan Time Zone = GMT-9	Hawaii Time Zone = GMT-10

Update Period - This is the frequency at which the NVR will check the time with the server.

Synchronize - Clicking this will cause the NVR to update the time immediately.

Device Settings

Language – The system currently supports English, Spanish or French. The system will need to be restarted for the language change to take effect.

Video Standard – By default, this NVR operates using the NTSC standard common to North America. Video output can be switched to PAL for areas where that is used.

Device No. – If you are controlling more than one NVR with a single remote, this allows you to give each NVR a separate numerical ID.

Device ID – If you are monitoring more than one NVR remotely, giving each an identifying name will assist in keeping track of which system is being monitored.

HDD Full – Depending on the number of cameras recording, the size of your hard drive, how many cameras are recording and how often, image quality and other factors, your NVR's hard drive can be completely full of recordings in one to four weeks. When it is full, the NVR will stop recording unless you set it to overwrite older files.

IMPORTANT! The overwrite features should be enabled before you begin recording or the NVR may not delete files created before that point. If this occurs, reformatting the hard drive will fix the situation.

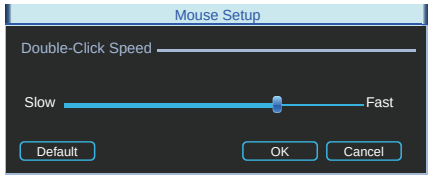
WARNING! Overwritten files can not be recovered. Important files should be backed up onto another device to prevent loss.

Pack Duration – Rather than creating 24-hour long files when a channel is set to record all the time, this allows you to set the maximum record length between one to two hours (measured in minutes).

Realtime Play – This sets the duration of the video clip that will play when the **Realtime Play** icon (See Section 3.2) is activated in **Live View**.

Other Settings

Mouse Property – Just like with a computer, you may adjust how fast you need to double-click with the mouse in order to control the NVR.



PICTURE 4-17

Setup Wizard – You should deselect this box after you've set up your NVR, otherwise the Startup Wizard will launch each time your system is restarted.

Navigation – This is enabled by default and allows you to open the Navigator Bar by left-clicking on the **Live View** screen.

Auto Logout – This sets how long the NVR will go before automatically logging a user out of the system due to inactivity.

IPC Time Synch – Each IP camera has its own internal clock. These can be set using the included **PSS** software (see the **PSS User Manual** included on the **Manuals and Software** disk) or you can allow the NVR to set the time by enabling this feature.

Snap Times – This is the number of still images the NVR will take when you click on the **Snapshot** icon at the top of each camera's video. You can take up to five shots at a time and the images can be found through the **Search and Playback** window.

PICTURE 4-18

RS232

The RS232 port on the back of the NVR is used during the manufacturing process as a way to configure the system. It has no user functions.

ALARM

Connecting and operating external alarms with your system will be covered in **Chapter 6 Alarms**.

NETWORK

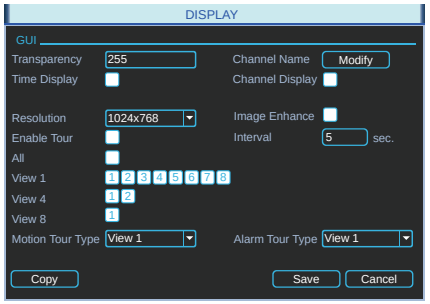
Accessing the NVR from within a Local Area Network, over the Internet or via a Smartphone along with setting up e-mail notifications and other online features will be covered in full in the **Remote Monitoring Guide** included on the CD that came with your NVR or available for download from ***www.Q-See.com.***

PTZ

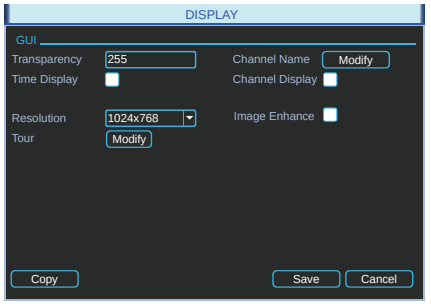
Please see **Chapter 5** for instructions on connecting and operating a PTZ camera.

DISPLAY

This window contains the settings that control the Graphical User Interface (GUI) as well as how you view the NVR. Depending upon your model, the menu will look like either **Picture 4-19** or **Picture 4-20**.



PICTURE 4-19

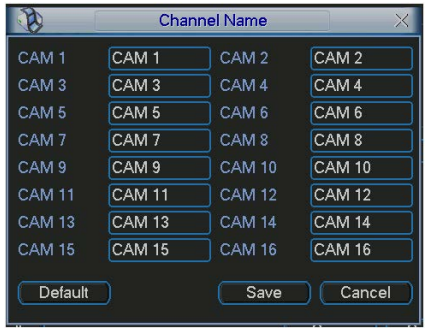


PICTURE 4-20

Transparency – You can choose to make the menu screens more transparent or opaque with 128 being the most transparent and 255 being completely opaque.

Channel Name – You can name each channel - up to 25 characters. An example is naming the channels based on where they're located.

Time Display and **Channel Display** – These buttons enable their respective displays on the video during playback.



PICTURE 4-21

Resolution – There are four pre-set options; 1920x1080, 1280x1024 (default), 1280x720 and 1024x768. The NVR will need to reboot in order for changes you make to take place.

Image Enhance – Enabling this feature will allow the NVR to adjust the on-screen video image for clarity and color balance. It will not affect the recorded video.

Tours - If motion is detected or an alarm is triggered, the NVR can be set to cycle through all or some of the cameras. Depending on your model, this can be configured within this menu a submenu reached by clicking on the Modify button next to "Tour."

Enable Tour – Selecting this box will cause the screen to cycle through displaying channels selected in the following fields.

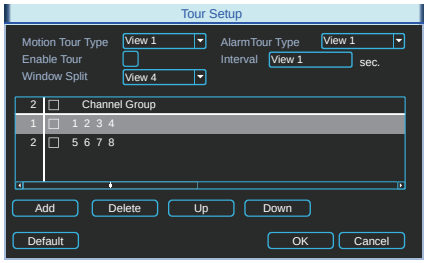
Interval – This is the time – from 5 to 120 seconds – that the NVR will display each channel or group of channels before moving to the next group in the tour.

View – You may select which channels and groups of channels will be displayed during a tour. Channels selected in **View 1** will appear in sequence, followed by pages of multiple channel views if those are selected. Enabling **All** will activate all available display modes for the tour.

Motion Tour Type – If a motion detection event occurs, and the Tour button is selected in **Motion Events** (**See Section 3.4**) the NVR will switch a single-screen view tour or an eight-screen view tour displaying the channels that were selected in that menu.

Alarm Tour Type - As with Motion Tour, above, but activates when an external alarm is triggered (see **Chapter 6 Alarms** for instructions on operating alarms connected to your system.

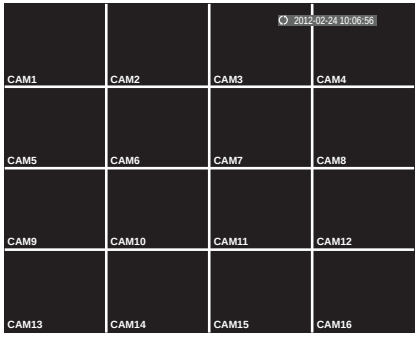
Select which channels you want and set the amount of time that the channels will display on screen before moving to the next one.



PICTURE 4-22

In Tour mode, you will see an icon in the upper right corner of the display which allows you to control the tour by right-clicking upon it. Clicking upon the icon will cause the tour to pause or resume.

	Window switching mode enabled
	Window switching mode stopped

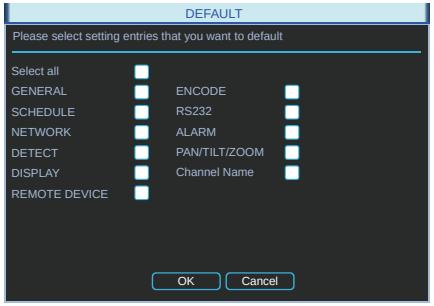


PICTURE 4-23

DEFAULT

The options in this window will allow you to return various settings back to their default configuration.

The settings that will be changed are self-explanatory.



PICTURE 4-24

WARNING! Language, time display mode, video format, IP address, and user account will not retain your settings after being reset back to default values!

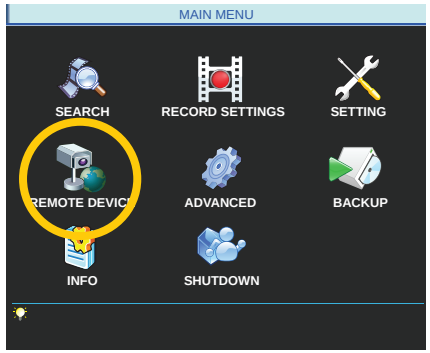
4.5 REMOTE DEVICE

While cameras connected directly to the NVR through the POE ports will automatically connect and display video, remote cameras connected to your system must be located and added manually. This can be done through the process described in **Section 2.4 IP Cameras** at the beginning of this manual or through the **Remote Device** window.

Use of remote devices requires that your NVR is connected to a router. These devices can be IP cameras or even QC-series DVRs. If you intend to connect to devices that are located outside of your local network, then this router must be able to access the Internet. Instructions for connecting your system to the Internet are presented in the **Remote Monitoring Guide** that also came on the CD with your system. It is also available from our online resource at ***www.Q-See.com/Support***.

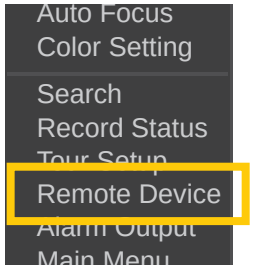
Similarly, the remote devices must be able to communicate with the local network or Internet. This will be covered in **Chapter 4** of the **Remote Monitoring Guide** as well.

This window can be reached by clicking on the **Remote Device** icon in the **Main** menu...



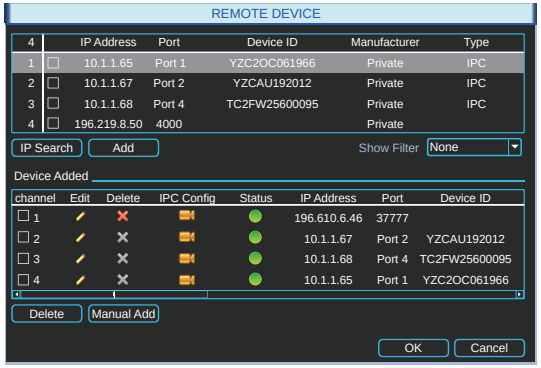
PICTURE 4-25

...or through the **Shortcut** menu by right-clicking on the screen and selecting **Remote Device**.



PICTURE 4-26

When the window opens, you will be presented with a list of all connected devices in the lower portion. This section, marked Device Added, indicates the status of each device along with other information about it.



PICTURE 4-27

Icon	Meaning	Description
	Editable	You may edit the settings on this device by double-clicking on it
	Cannot Delete	This device is connected directly to the NVR and must be physically unplugged to be removed from this list.
	Removable	This device may be deleted from the list by checking the box next to it and clicking on the **Delete** button below.
	Configure IP Camera	Clicking on this icon will allow you to configure the video from this camera.
	Device Status OK	The connected device is operating normally.
	Device Error	There is an issue with the connected device that is preventing it from operating normally.

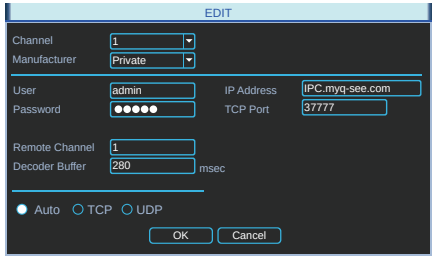
Clicking on **IP Search** under the upper portion of the window will generate a list of all devices that the NVR was able to locate - both directly connected as well as connected to the same network as your system. Items showing a short IP address beginning with “10” are cameras directly connected to the NVR and who’s IP addresses were assigned by the NVR itself. Care should be taken that you do not attempt to connect a device that is already connected to the system as it will create a duplicate video feed and could cause connectivity issues.

EDIT

Double-clicking on a device in the **Device Added** portion of the window will display information regarding the connected remote device. Making any changes within this window will not change anything on the camera or remote device itself. To make those changes, you will need to access the camera or other remote device (such as a DVR) directly, or through one of the remote methods described in the **Remote Monitoring Guide**.

Once you have made those changes, you will need to update the user name and password within the **Edit** window. Failing to change these in this window will result in an on-screen message about incorrect password and may lock you out of the IP camera for a period of 30 minutes in the case of QC-Series cameras - other brands may vary.

It is important that you do not remove the device you are making the changes upon from the list of connected devices before editing the information in the **Edit** window. If you later remove the device from the list and wish to reconnect, you will need to do so using the **Manual Add** feature as described below.



PICTURE 4-28

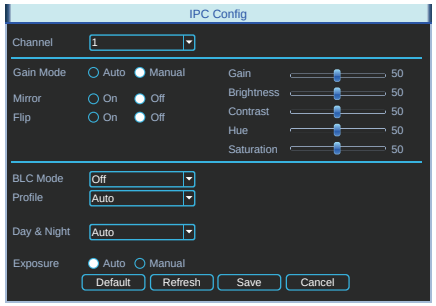
IMPORTANT! To avoid connection issues, you should not change the information within the **Edit** window unless you have first made those changes to the remote device itself.

CONFIGURING IP CAMERAS

You can configure the settings of an IP camera by clicking on the appropriate camera icon under the **IPC Config** column. This will open a new window allowing you access to the camera’s settings. You can optimize your camera’s video to compensate for unusual lighting in the area or other factors. Unlike making similar changes on a monitor or other display, changing these settings will affect the video itself and the video will be recorded to the hard drive according to your settings.

Gain - This is electronic amplification of the video signal. It is used to brighten the image by amplifying the signal, but it comes at the risk adding “noise” to the video. When the **Manual** radio button is selected, you can adjust the gain using the slider.

Brightness, Contrast, Hue and **Saturation** - These adjustments operate similarly to those on a television or monitor.



PICTURE 4-29

Mirror and **Flip** - Individual circumstances can force users to mount their cameras in non-standard or less-than-ideal positions. And, sometimes, a user will realize that they mounted their camera upside down after they've put the ladder and tools away. Enable **Mirror** to switch the image left to right. **Flip** will turn the image upside down.

BLC Mode - BLC, or Back Light Compensation enables the camera to adjust its settings so that a subject in front of a light source - such as a window - does not appear as a darkened, featureless figure.

Profile - These are a combination pre-configured settings that allow you to quickly optimize a camera to certain lighting conditions. It is useful if the area where your camera is located has a unique lighting situation. There is also the option to set up your own User-Defined settings. In this mode, you can adjust the red and blue balance, set when the camera will switch over to day (color) or night (black and white) mode and adjust the camera's electronic shutter speed using the **Exposure** option. This latter setting will increase or decrease the amount of light entering the camera.

After making your changes, click on **Save** to preserve them. You can also revert back to the factory settings by clicking **Default**.

ADDING AND DELETING REMOTE DEVICES

The lower portion of the window shows all devices currently connected to your NVR. If all of your channels are occupied, you will need to delete one of the connected devices from this list by selecting the check box next to it and clicking delete. Items with a gray "**X**" are directly connected to your NVR and may only be removed by physically disconnecting them from your system.

Clicking on the **IP Search** button will create a list of all remote devices that the NVR was able to detect. You may limit this search to only IP cameras by selecting **IPC** in the **Filter** pull-down. Items being accessed by your NVR over the Internet will not appear in the list at the top of the window. They must be added manually (see below).

If you have an available channel, you may add a device by selecting the check box next to it and then clicking **Add**. Please note that the NVR will connect automatically only with devices from compatible manufacturers (see **Section 2.4 IP Cameras** or **Section A.2 Specifications** for a list of compatible manufacturers) using their default user names and passwords. If these have been changed, you will need to use the **Manual Add** feature instead.

Manual Add

If you have changed the default settings of any remote device which you wish to use with your NVR, you will need to use the **Manual Add** button at the bottom of the window to add this device to the list of connected devices. This applies to cameras and DVRs which were previously connected but later removed from the list of connected items. Items being accessed from outside your local network will also need to be added using this button.

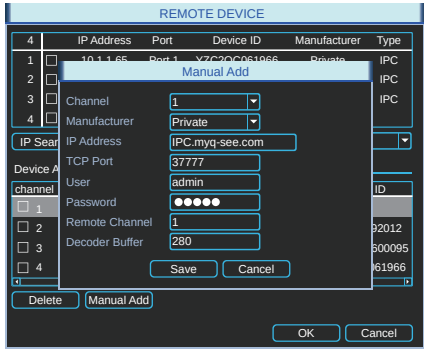
Within the **Manual Add** window, some information may already be displayed but it may not be correct for the device you are intending to connect.

Channel - Select an available channel to which you want to assign this device.

Manufacturer - You can leave this unchanged.

IP Address - If this device is connected to the same network as the NVR, the IP address will appear in upper portion of the **Remote Device** window along with the device name. If this device is located outside of your local network, you will need to determine the IP address locally to the device (see the **Remote Monitoring Guide**).

TCP Port - The default is 3777. Devices being accessed over the Internet may be using a different port. You will have determined this during setup.



PICTURE 4-30

User/Password - Enter the user name and password you set for the device. The default user name and password for QC-Series IP cameras are ***admin*** and ***admin***. For other brands, please consult your product manual.

Remote Channel - Leave this unchanged.

Decoder Buffer - Ranges from 80 to 480, but it is better to leave it at the default value of 280.

4.6 ADVANCED

The settings in this menu cover user accounts, hard disk management, video display, and system maintenance.

PICTURE 4-31

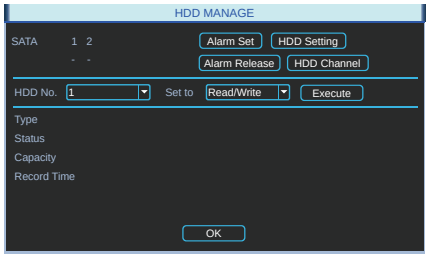
HDD MANAGE

This displays some of the same information found in the **HDD Info** window in the **Info** menu (see **Section 4.2**) but this window allows you to make additional settings.

The drive name and status is displayed.

The status indicators are:

O	Drive is operating normally.
X	Indicates an error
-	Hard drive not installed
?	Hard drive is damaged



PICTURE 4-32

Clicking on **Alarm Set** opens the **Abnormality** window which is covered immediately following this section.

Alarm Release – this turns off any disk alarm that may be occurring.

HDD Setting - When you have multiple drives installed, you can designate which drive is the primary and which is secondary. Multiple drives may be assigned to the same group which means that the NVR will continue writing onto the next drive in the group after the first one is filled before going back and overwriting old records on the first.

HDD Channel - If you have more than one hard drive installed in your NVR, you can determine which drive video and still images are recorded on. Clicking **HDD Channel** will open a new window with three tabs: Main Stream, Extra Stream (the lower bandwidth video used for remote monitoring) and Snap Picture (the still images captured with the Snapshot function. Within each tab, you can set the destination for each channels' output.

PICTURE 4-33

The next section of the HDD Info window allows you to set any installed hard drives to one of four states:

Read/Write	Normal operation. The device records (writes) files to disk and plays (reads) them.
Read Only	No more files can be recorded onto the drive, but existing files can be viewed.
Format	Reformats the hard drive.

CAUTION! Reformatting the hard drive will erase all recorded events.

Recover	If you are having problems with the hard drive, including corrupted files, selecting Recover causes the drive to re-set, but does not erase its contents.

No changes will take place unless the Execute button is pressed once you've made your selection. The drive's status will be displayed next to the Type heading below the pull-downs. If you make changes and press **Execute**, the NVR will restart once you press **OK** to exit. You cannot right-click out of the menu.

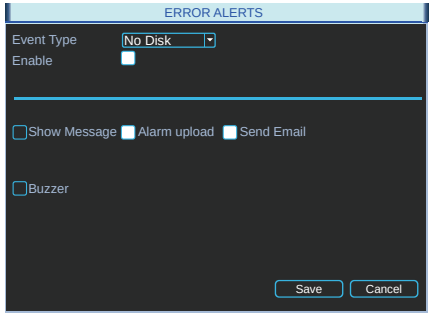
ERROR ALERTS

This window allows you to set up alarms for disk and system disconnection errors as well as how these alarms are handled. Each type of alarm can be independently enabled along with what events that type of alarm will trigger.

Event type – Chose from No Disk, Disk Error, Disk No Space, Net Disconnected and IP Conflict.

Show Message – When enabled, this will display the event notification on the NVR's screen.

Alarm Upload – This feature is not available on this model.



PICTURE 4-34

Send E-mail – this will send an e-mail notification to the recipient address set up in the **Network** menu (see **Section 1.2 Advanced Network Setup** in the **Remote Monitoring Guide**).

ACCOUNT

This is the account management window which allows you to add or delete users, create user groups, modify the access privileges of users, and create or change passwords.

There are two pre-configured default users; Admin, and 666666. Only Admin has administrator rights.

When adding a user, you not only create their user name and password, but you can grant or deny control over specific activities on the NVR, including which cameras that user can view or play back. These privileges can be changed later by an administrator-level user using the **Modify User** button. Administrator Users have control over 60 different functions while basic Users have 35 functions that can be allowed or denied.

PICTURE 4-35

A user or group name can consist of at most eight characters and no two users may have the same user name. There is no limit to the number of users or groups.

The **Memo** field allows you to include a note about the user or group that is only visible in this window.

Toggling the **Reusable** box allows more than one user to log in using this account

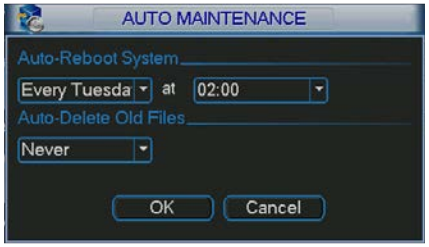
Creating a group gives you the ability to set the access privileges for as many users and any users' rights cannot exceed that of the group they are in.

Selecting **Modify Password** opens a new window which allows you to select the user whose password you want to change. Enter the old password and then the new password twice.

AUTO MAINTENANCE

Much like a regular computer, this NVR benefits from being restarted after extended periods of operation.

You can determine when the system will automatically reboot and you can optionally have it auto-delete old files at that time as well. You can set this option to delete files that are 1-31 days old.



PICTURE 4-36

4.7 BACKUP

This window was covered in **Section 3.6 Backup**

4.8 SHUTDOWN

This is the preferred method to use when shutting down the NVR.

When this window is opened, you have the option of logging out as a user, switching the user, shutting down the system or restarting it.

After selecting **Shutdown**, the NVR will stop recording, the hard drive will stop and you will be able to turn it off using the power switch on the back panel.

MAIN MENU
SHUTDOWN
Logout menu user
Logout menu user
Shutdown
Restart system
Switch user
Logout the OSD menu or reset/restart the system. After idle for standby time (no inputs), the system will exit OSD automatically.

PICTURE 4-37

PAN/TILT/ZOOM CAMERAS CHAPTER 5

5.1 CONNECTING A PTZ CAMERA

Unlike conventional PTZ cameras, IP PTZ cameras do not require a control wire in order to operate. The NVR can send commands directly through the RJ-45 (Ethernet) cable that connects the camera to the POE, or via the network. If you are using an IP PTZ camera, please skip to the section entitled **Control** in **Section 5.2**.

There are still a number of legacy camera mounts and other systems in use which require a RS485 digital control wire to operate. For that reason your system still includes the option to connect an RS485 control wire to the back of the NVR. The RS485 connector is used to connect and control the motion of these platforms. It uses a single-direction protocol meaning that it can send commands out to the camera(s) but not receive any data back from the unit.

The NVR is set by default for RS485 to be disabled for each channel. Therefore, PTZ settings must be enabled before the RS485 can be utilized. This system supports 26 of the most common protocols including Pelco-D and Pelco-P.

When connecting a PTZ device, the following should be taken into account:

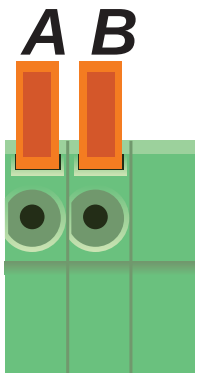
• Shielded twisted wire is recommended with the shielded layer being used to connect to the ground. Improper grounding may result in chip damage. We recommend using CAT 5 or CAT 6 wire for this purpose.

• The 485 port oj75

f this NVR cannot parallel connect with the 485 port of another device

• The voltage between the A and B lines of the camera should be less than 5V.

STEP 1. The two wires of the data cable from the PTZ camera must be inserted into the ports labeled A & B as shown in **Picture 5-1**. Multiple control wires can be connected to this port, but you may require an expander port to do so.



PICTURE 5-1

STEP 2. The color of these leads will vary by manufacturer but they should be labeled "**+**" or positive and "**-**" or negative. The positive wire should be inserted into port A with the negative going into port B.

The insulation on both leads should be stripped to expose about 1/8" or 4mm of bare metal. You must push in the orange tab above the port with a small item like the end of a paperclip while inserting the wire lead. When the wire is sufficiently inserted, release the orange tab. Pull gently on the wire to ensure that it is locked in the port.

STEP 3. Connect the other end of the cable to the proper pins in the connector on the camera

STEP 4. Connect the camera video and power cables as you would any other camera.

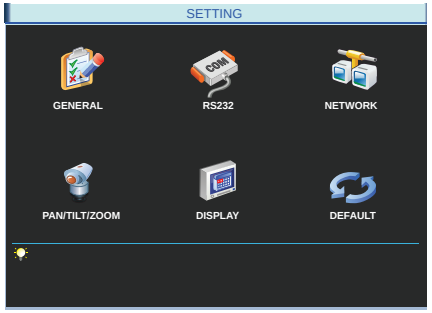
5.2 PTZ CONTROL AND SETUP

The NVR is set by default for the PTZ functions to be disabled for each channel. Therefore, if you are not using an IP PTZ camera, you must enable these settings before you can control your PTZ device through the RS485 cable. If you are using an IP PTZ camera, then skip to **Control** on the next page.

This system supports 26 of the most common protocols including Pelco-D and Pelco-P. The following instructions are based on the Pelco-D protocol. You will need to have the manual for your PTZ camera at hand to ensure the proper settings within the NVR.

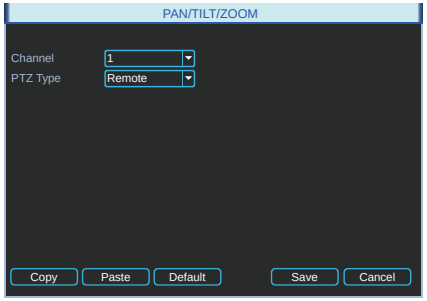
SETUP

For ease of set-up, the PTZ camera's video feed should be displayed on the screen.



PICTURE 5-2

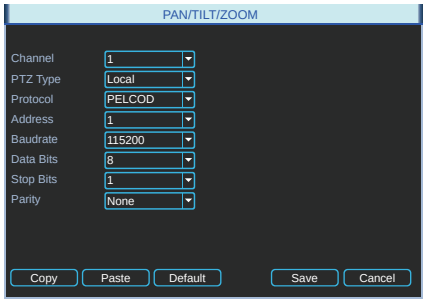
STEP 1. Open the **Pan/Tilt/Zoom Menu** from the **Settings** menu. You cannot use the **Shortcut Menu** to access the PTZ controls until after you have configured a channel to use PTZ.



PICTURE 5-3

STEP 2. If the PTZ Camera is to be connected directly to the NVR, then select Local in the PTZ Type pull down. Otherwise, select Remote. Be certain that the channel listed at the top is the one which the PTZ camera will be connected to.

For a local PTZ camera, you will need to enter data into the other fields according to the data provided in your PTZ camera's manual, including protocol, data bits, stop bits and parity.

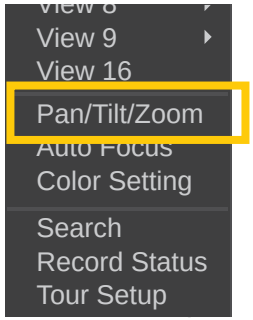


PICTURE 5-4

STEP 3. Click the save button once you have entered the settings. If you are operating an identical PTZ camera on another channel, you may use the **Copy** and **Paste** buttons to apply those settings to the channel that camera is connected to. Be sure to check that the camera's address did not change as well. Each PTZ camera must be on a different channel and have a different ID.

CONTROL

Right-click the mouse to bring up the **Shortcut Menu**. Select **Pan/Tilt/Zoom** to access the **Pan/Tilt/Zoom** control panel (**Picture 5-6**)

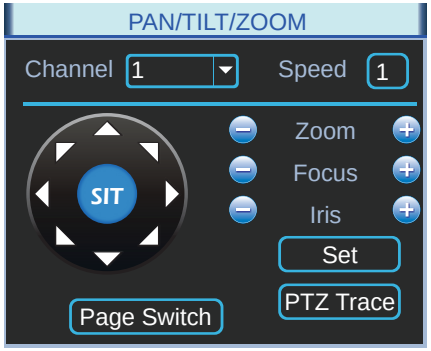


PICTURE 5-5

Use the mouse to control the direction of the camera's movements by clicking on the arrows.

Speed – From 1 to 8

and adjust zoom, focus and iris



PICTURE 5-6

Intelligent Positioning Key

If your protocol supports it, clicking on the blue area at the center of the directional controls will hide the control panel and allow you to select an area to zoom in on with the cursor. Right-clicking with the mouse will return you to the control panel.

PICTURE 5-7

IMPORTANT! If your NVR is set to record when motion is detected, the movement of your PTZ camera can create false alarms. You should adjust the channel's mode of recording as well as how it sends notifications to avoid this.

SETTING PRESET/PATROL/PATTERN/SCAN

Clicking the Set button in the **PTZ Control Panel** (**Picture 5-6**) opens a new window in addition to leaving the **PTZ Control Panel active**.

This window allows you to set up the PTZ's Preset, Tour, Pattern and Border functions.

Preset

STEP 1. Start by using the eight direction arrows on the **PTZ Control Panel** (**Picture 5-6**) to position the camera where you want.

STEP 2. Click the **Preset** button in the **Function** list and enter the number you want to assign to this preset.

PICTURE 5-8

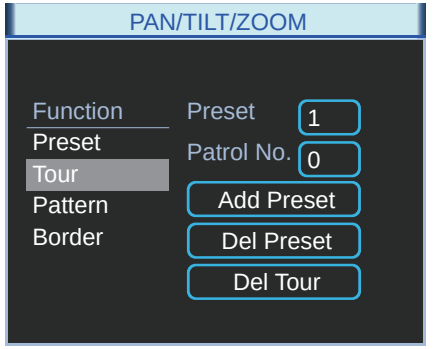
To create another preset point, change the Preset Number and repeat steps 1 and 2. Your camera supports up to 255 Preset Points. When you have created the desired preset points, you may use them to create a tour.

Tour

A tour is the sequence of points that your camera will move to automatically before returning to its starting point and repeating. You can create up to 8 tours.

STEP 1. Click the **Tour** button in the **Function** list and enter the number of the preset you wish to add to it.

STEP 2. Click **Add Preset** to enter it into the tour. You can have up to 80 presets in a single patrol.



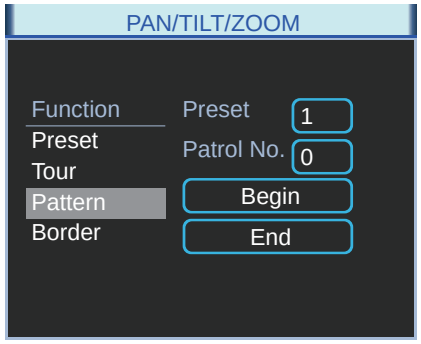
PICTURE 5-9

STEP 3. Assign the tour a number

You can remove a preset point by clicking on the **Del Preset** button and an entire tour can be deleted using the **Del Tour** button.

Pattern

A Pattern is similar to a tour. However, instead of creating Preset Points, you move the camera through the pattern you want it to follow. You can create up to 5 patterns.



PICTURE 5-10

STEP 1. Click the **Pattern** button in the **Function** list.

STEP 2. Click the **Begin** button

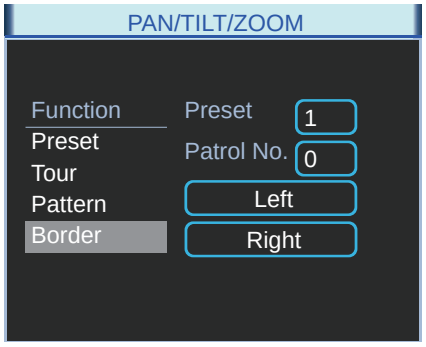
STEP 3. Modify the zoom focus and iris settings using the **PTZ Control Panel** (**Picture 5-6**)

STEP 4. Click the **End** button to save the changes.

STEP 5. Enter the desired number for this pattern into the field.

Border (Auto Scan)

Using this feature will cause the camera to scan back and forth between two points. You can create up to 5 scans.



PICTURE 5-11

STEP 1. Click the **Border** button in the Function list

STEP 2. Select either the **Left** or **Right** button to indicate which edge you are defining.

STEP 3. Use the direction arrows in the **PTZ Control Panel** (**Picture 5-6**) to move the camera to the limit desired.

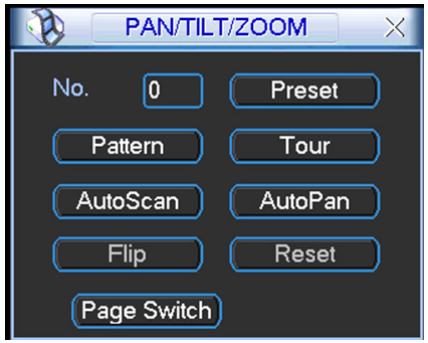
STEP 4. Repeat for the other border.

In the **PTZ Control Panel** (**Picture 5-6**), clicking the **PTZ Trace** button will begin the auto scan. The button will convert to a **Stop** button which can be used to end the scan.

RUNNING PTZ FUNCTIONS

Clicking on the **Page Switch** button in the **PTZ Control Panel** (**Picture 5-6**) will switch to a new window (**Picture 5-12**) which allows you to activate the functions created above as well as the Auto Pan and Flip functions.

Enter the number of the function you wish to activate and select the function button to run that function.



PICTURE 5-12

In addition, there are other functions that can be engaged in this window.

AutoPan - This will cause the camera to automatically rotate.

Flip - Most PTZ cameras have a mechanical stop which will prevent the camera from rotating a full 360°. If the camera is tracking someone or some thing and it reaches this stop, pressing Flip will bring the camera around the other direction to continue tracking. Some PTZ cameras have "E-flip" which will do this automatically.

Page Switch - returns you to the **PTZ Control Panel** (**Picture 5-6**)

Reset - This ends the currently running function.

ALARMS

CHAPTER 6

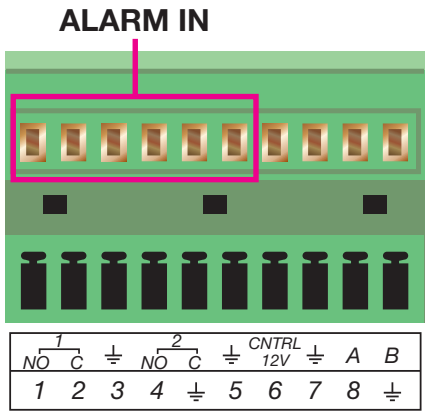
This NVR features connections for external alarms – both input and output. When an event is detected the system can notify local users or send notification to a monitoring service. At the same time, the system can accept signals from motion detectors, smoke detectors or other alarms and begin recording based on that input and your settings.

You will need to have the manual for your alarm(s) handy to ensure the proper settings within the NVR.

6.1 ALARM INPUT

When attaching alarms, the following criteria must be met:

1. The alarm input must be grounded.
2. A grounding signal is required for the alarm input
3. When connecting the NVR to another device - including another NVR - through the alarm input, a relay should be used to separate them.

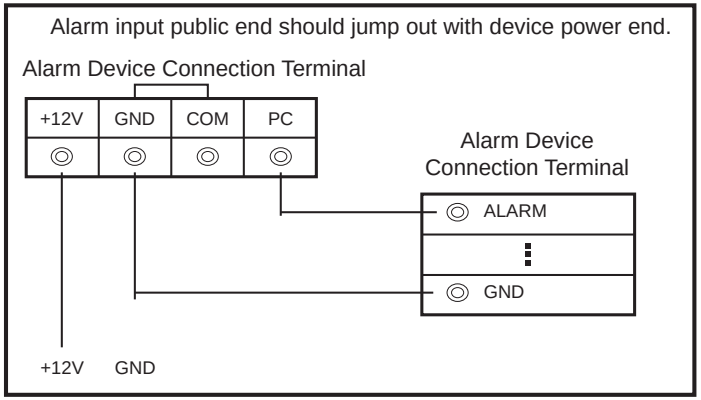


PICTURE 6-1

Parameter	Grounding Alarm
⏚	Ground line
Alarm Input	1, 2, …, 8 becomes valid in low voltage.
1-NO C 2-NO C	Two NO activation outputs.
CTRL 12V	Controls the power output You need to close the device power to cancel the alarm.

The accompanying diagram (**Picture 6-2**), along with your alarm's manual should be consulted to ensure proper connection.

- Normal open or Normal close type
- Parallel connect COM end and GND end of the alarm detector (Provide external power to the alarm detector).
- Parallel connect the Ground of the combo NVR and the ground of the alarm detector.
- Connect the NC port of the alarm sensor to the combo NVR alarm input(ALARM)
- Use the same ground with that of combo NVR if you use external power to the alarm device.



PICTURE 6-2

6.2 ALARM OUTPUT

The alarm output port should not be directly connected to a higher power load (greater than 1A) to avoid high current which may damage the relay. Use the co-contactor to establish the connection between the alarm output port and the load.

- 2 way relay alarm output (NO contact). Provides external power to external alarm device.
- To avoid overloading, please read the following relay parameters sheet carefully.
- RS485 A/B cable is for the A/B cable of the PTZ camera.

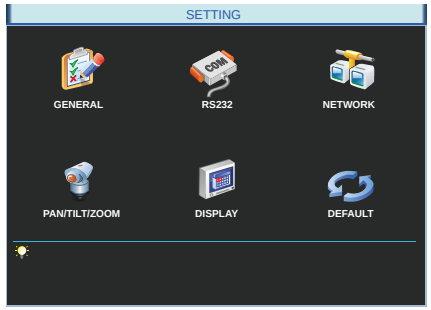
Relay Specification

Model:	JRC-27F	
Material of the contact	Silver	
Rating (Resistance Load)	Rated switch capacity	30VDC 2A, 125VAC 1A
	Maximum switch power	125VA 160W
	Maximum switch voltage	250VAC, 220VDC
	Maximum switch currency	1A
Insulation	Between contacts with same polarity	1000VAC 1minute
	Between contacts with different polarity	1000VAC 1minute
	Between contacts and winding	1000VAC 1minute
Surge voltage	Between contacts with same polarity	1500V (10×160us)
Length of open time	3ms max	
Length of close time	3ms max	
Longevity	Mechanical	50×106 times (3Hz)
	Electrical	200×103 times (0.5Hz)
Temperature	-40°C ~+70°C (-40°F to +158°F)	

6.3 ALARM SETUP AND ACTIVATION

Once external alarms are properly connected, you can configure the NVR to activate them.

The **Alarm** interface can be selected from the **Setting** menu.



PICTURE 6-3

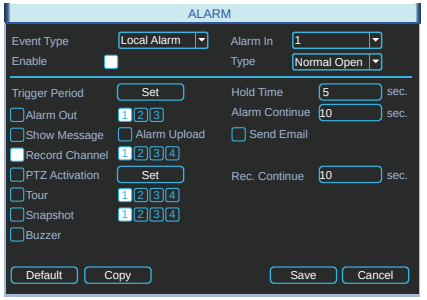
The upper portion of this window is used to choose an alarm, its configuration and its type.

Event Type – Choose between **Local** and **Remote** input. Remote input must be connected through an IP camera.

Alarm In – Select the alarm channel you are configuring.

Enable – When this is selected the alarm response(s) in the bottom portion of this window are enabled.

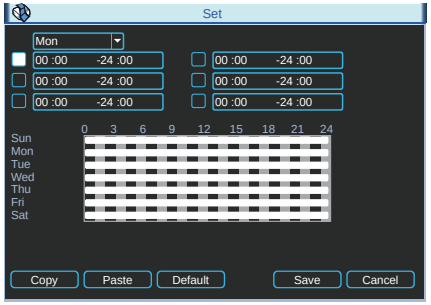
Type – Alarms are either Normally Open (NO) or Normally Closed (NC)



PICTURE 6-3

The bottom portion of the window allows you to choose what actions the NVR will initiate when an alarm is activated along with scheduling when the alarms are active.

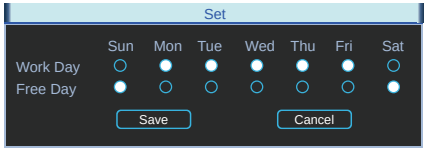
Trigger Period – This is for setting the schedule for when alarms are active. Clicking the **Set** button opens up a new window. Its operation is exactly like the setting window used to schedule motion detection and covered in **Section 3.4**.



PICTURE 6-4

You can set the schedule in up to six blocks of time for specific days of the week or by weekday and weekend.

Clicking the **Set** button next to the day drop down allows you to specify which days are work days and which are not.



PICTURE 6-5

Hold Time – This is the length of time you want the system to delay before beginning recording on an alarm.

Alarm Out – This will send an alarm signal to up to three connected external alarms when enabled.

Alarm Continue – This is the time that the NVR will wait before starting a new event (10 seconds to 300 seconds (5 minutes)) after the alarm is ended.

Show Message – When this is enabled, an alert message will be displayed on the NVR's screen.

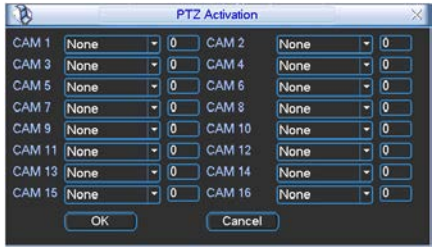
Show Message – When this is enabled, the system will bring up the **Alarm Status** window whenever an event is detected. You can configure this to display when motion, video loss or masking is detected.

Alarm Upload – The system can upload the alarm to the network including an alarm monitoring service.

Send E-mail – E-mail notifications can be sent a single e-mail address. Please see the **Section 1.2 Advanced Network Setup** in the **Remote Monitoring Guide** for instructions on how to set up the e-mail alerts including recipient address.

Record Channel – When one camera detects an event, you can set the NVR to activate recording on other cameras.

PTZ Activation – If you have Pan-Tilt-Zoom cameras connected to the NVR, you can cause them to be activated when an alarm occurs. You can further instruct it to perform one of 255 pre-set activities. You can also allow a delay of 0 to 300 seconds before the PTZ camera(s) activates. Setting up these pre-programmed functions is covered in **Section 5.2 PTZ Control and Setup**.



PICTURE 6-6

Tour - When enabled, this causes the NVR's display to cycle through selected Live View channels while maintaining the selected recording functions. Instructions for configuring this feature are found in the **Motion Events** menu as shown in **Section 3.4 Recording**.

Snapshot - When this is selected, the NVR will begin recording still images, in addition to whatever video is being recorded, and it will upload or e-mail these images as configured in in the **Motion Events** menu as well.

Buzzer - When enabled, the NVR will sound an audible alert when an alarm is triggered.

IMPORTANT! When you have completed your setup in the **Alarm** menu, you should also review your settings in the **Record Settings** menu to enable any other desired alarm-related features.

HARD DISK DRIVE

CHAPTER 7

Your NVR uses a standard computer A/V-rated SATA (Serial Advanced Technology Attachment) hard disk drive and will support up to a 3TB (terabytes) drive. These drives are the current industry standard and may be purchased wherever computer parts are sold. Depending on where you purchased your NVR, it may come with a pre-installed drive. But, we recognize that you may wish to upgrade or replace your drive in the future so this NVR is designed to make installation and replacement easy for the average user.

It should be noted that while this and the battery are the only user-serviceable parts within the case, and you will not void your warranty by installing or upgrading your hard disk drive, care must be taken to avoid damage to the other components within the case.

WARNING! ELECTRIC SHOCK RISK!

The NVR **MUST** be unplugged from all power sources as well as from the cameras before opening the case. Failure to do so can result in damage to the NVR or its components as well as injury or death.

7.1 INSTALLATION/REMOVAL

It is strongly advised against opening the case when atmospheric conditions present the risk of static discharge which can damage electronic components.

Whether installing the drive for the first time or removing the old one to install a new one, the steps are largely the same:

STEP 1. Disconnect the NVR from the power source as well as any other connections.

PICTURE 7-1

STEP 2. Loosen the cover screws on the rear and side panels.

PICTURE 7-2

STEP 3. Insert four screws into the mounting holes on the hard drive. DO NOT fully tighten, but give three twists each.

PICTURE 7-3

STEP 4. Line up hard drive mounting screws with mounting holes at the bottom of the NVR and slide the hard drive to move the screws to the narrow part of the holes.

PICTURE 7-4

STEP 5. Carefully turn NVR over taking care not to allow the drive to slide out.

PICTURE 7-5

STEP 6. Tighten the mounting screws firmly.

PICTURE 7-6

STEP 7. Flip the NVR right side up and connect the data and power cables to the hard drive.

PICTURE 7-7

STEP 8. Replace the cover onto the NVR.

PICTURE 7-8

STEP 9. Secure the screws in the rear and side panels.

APPENDIX

A.1 TROUBLESHOOTING

1. **The NVR does not boot up properly** ***Possible Causes:***
   a. Input power is not correct, check power supply.
   b. Power switch button is damaged.
   c. Updated firmware using wrong file.
   d. Hard drive malfunction or something wrong with hard drive cable.
   e. Front panel error.
   f. Main board is damaged.

2. **NVR often automatically shuts down or stops running.** ***Possible Causes:***
   a. Input voltage is not stable or it is too low.
   b. Hard drive malfunction or something is wrong with the cable.
   c. Device is not getting enough power.
   d. Front video signal is not stable.
   e. Working environment is too hot, or too much dust.
   f. System board malfunction.

3. **System cannot detect hard drive.** ***Possible Causes:***
   a. No hard drive is installed
   b. Hard drive is damaged.
   c. Hard drive cable connection is loose.
   d. Main board SATA port is damaged.

4. **There is no video output to one or more channels.** ***Possible Causes:***
   a. Updated firmware using wrong file.
   b. Brightness is 0. Please restore factory default setup.
   c. There is no video input signal or it is too weak.
   d. Check privacy mask setup.
   e. Combo NVR hardware malfunctions.

5. **Real-time video color is distorted.** ***Possible Causes:***
   a. When using BNC output, NTSC and PAL setup is not correct. The real-time video becomes black and white.
   b. NVR and monitor resolution settings are not compatible.
   c. Video cable is too long signal is becoming degraded.
   d. Combo NVR color or brightness setup is not correct.

6. **Cannot search local records.** ***Possible Causes:***
   a. HDD ribbon is damaged.
   b. HDD has failed.
   c. The recorded file has been overwritten.
   d. Record function has been disabled.

7. **Video is distorted when searching local records.** ***Possible Causes:***
   a. Video quality setting is too low.
   b. Program read error, bit data is too small. There is mosaic in the full screen. Please restart the NVR to solve this problem.
   c. Hard drive data cable error.
   d. Hard drive malfunction.
   e. NVR hardware malfunction.

8. **There is no audio when monitoring.** ***Possible Causes:***
   a. Channel with audio is not full screen, make the channel you want to hear audio on full screen.
   b. Audio cable is damaged.
   c. Combo NVR hardware malfunction.

9. **There is audio when monitoring but there is no audio when system plays back.** ***Possible Causes:***
   a. Setup is not correct. Please enable audio function
   b. Corresponding channel has no audio input.

10. **Time display is not correct.** ***Possible Causes:***
    a. Setup is not correct
    b. Battery contact is not good or voltage is too low. Replace battery.
    c. Crystal is broken.

11. **Motion detection function does not work.** ***Possible Causes:***
    a. Period setup is not correct.
    b. Motion detection zone setup is not correct.
    c. Sensitivity is too low.

12. **Cannot log in client-end or web.** ***Possible Causes:***
    a. For Windows 98 or Windows ME user, please update your system to Windows XP or later.
    b. ActiveX control has not been enabled.
    c. Video card driver on computer may need to be upgraded.
    d. Network connection error.
    e. Network setup error.
    f. Password or user name is invalid.

13. **There is only mosaic no video when previewing or playing back video file remotely.** ***Possible Causes:***
    a. Network bandwidth is not sufficient.
    b. Computer does not have enough resources to handle video flow.
    c. There is multiple-cast group setup in combo NVR. This mode can result in mosaic. Usually we do not recommend this mode.
    d. There is privacy mask or channel protection setup.
    e. Current user does not have monitoring rights.
    f. NVR local video output quality is not good.

14. **Network connection is not stable.** ***Possible Causes:***
    a. Network is not stable.
    b. IP address conflict.
    c. MAC address conflict.
    d. PC or combo NVR network card is not good.

15. **Burn error /USB backup error.** ***Possible Causes:***
    a. System uses too much CPU resources. Try stopping recording first and then begin backup.
    b. Data amount exceeds backup device capacity. It may result in burner error.
    c. Backup device is not compatible.
    d. Backup device is damaged.

16. **Remote control does not work.** ***Possible Causes:***
    a. Need to enter the correct Device ID on the remote control.
    b. Distance is too far or control angle is too wide.
    c. Remote control battery power is low.
    d. Remote control is damaged or NVR front panel is damaged.

17. **Can not playback the downloaded file.** ***Possible Causes:***
    a. There is no media player.
    b. Need Divx Codec in file player

18. **Forgot local menu operation password or network password**
    a. Contact Q-See tech support and we can generate a new password for the unit.

A.2 SPECIFICATIONS

Parameter		QC804	QC808	QC8016
Control Mode		Front panel, USB mouse, IR remote control, Keyboard, Network		
Compression	Compression Format	H.264 and MPEG-4 dual codec		
Video	Video In	4 channel input directly through POE block		
			4 additional channels through network	12 additional channels through network
	Video Out	VGA x 1, BNC x 1, HDMI x1		
	VGA Resolution	1920×1080, 1280×1024, 1280×720, 1024×768		
	Record Resolution	1080P(1920×1080) / 720P(1280×720) / D1 (704×576/704×480)		
	Record Frame Rate	D1: 30fps/camera 720p: 30fps/camera 1080p: 30fps/camera	D1: 30fps/camera 720p: 30fps/camera 1080p: 15fps/camera	D1: 30fps/camera 720p: 15fps/camera 1080p: 7fps/camera
	Record Bit Rate	Up to 32Mbps		
	Supported IP Cameras	Q-See QC-series IP Cameras, Arecont Vision, AXIS, Canon, Dynacolor, Panasonic, Samsung, Sanyo, Sony, Onvif		
Audio	Audio Input	1 channel, RCA(200-2800mV, 30KΩ)		
	Audio Output	1 channel, RCA(200-3000mV, 5KΩ)		
Alarm	Alarm Input	16 Channel		
	Alarm Output	3 Channel		
Storage	Record Mode	Manual/Sensor/Schedule/Motion Detection/Camera Loss/Camera Block/Alarm		
	Multi-Function	Simultaneously Record, View Live or Recorded Video, Playback, Back-up files, Monitor Remotely		
Interface	Network Interface	RJ45 (LAN, Internet)		
	Communication Interface	RS485, RS232 USB 2.0 x 2 (One for Backup, One for USB Mouse)		
Controls		Front panel, USB mouse, IR remote control, Keyboard, Network		
Disk info	Disk Type	SATA x 2 (up to 3TB)		
Other info	Voltage	DC12V/3.3A		
	Optimal Temperature	14°F to 131°F /-10°C to 55°C 10% to 90% Humidity		
	Power Usage	20W (without Hard Drive)		

Parameter		QC814 QC824	
Control Mode		USB mouse, Network	
Compression	Compression Format	H.264 and MPEG-4 dual codec	
Video	Video In 4 cameras max	4 channel input directly through POE block	
		Remote cameras may be accessed through network	
	Video Out	VGA x 1, HDMI x1	
	VGA Resolution	1920×1080, 1280×1024, 1280×720, 1024×768	
	Record Resolution	1080P(1920×1080) / 720P(1280×720) / D1 (704×576/704×480)	
	Record Frame Rate	D1: 30fps/camera 720p: 30fps/camera 1080p: 15fps/camera	D1: 30fps/camera 720p: 30fps/camera 1080p: 30fps/camera
	Record Bit Rate	Up to 32Mbps	
	Supported IP Cameras	Q-See QC-series IP Cameras, Arecont Vision, AXIS, Canon, Dynacolor, Panasonic, Samsung, Sanyo, Sony, Onvif	
Audio	Audio Input	0	
	Audio Output	00	
Alarm	Alarm Input	0	
	Alarm Output	0	
Storage	Record Mode	Manual/Schedule/Motion Detection/Camera Loss/ Camera Block	
	Multi-Function	Simultaneously Record, View Live or Recorded Video, Playback, Back-up files, Monitor Remotely	
Interface	Network Interface	RJ45 (LAN, Internet)	
	Communication Interface	RS485, RS232 USB 2.0 x 2 (One for Backup, One for USB Mouse)	
Controls		Front panel, USB mouse, IR remote control, Keyboard, Network	
Disk info	Disk Type	SATA x 1 (up to 3TB)	
Other info	Voltage	DC12V/2A 48V/1A (POE)	
	Optimal Temperature	14°F to 131°F /-10°C to 55°C 10% to 90% Humidity	
	Power Consumption	20W (without Hard Drive)	

Parameter		QC818 QC828 QC8116	
Control Mode		Front panel, USB mouse, IR remote control, Network	
Compression	Compression Format	H.264 and MPEG-4 dual codec	
Video	Video In 8 cameras max	8 channel input directly through POE block	16 channel input directly through POE block
		Remote cameras may be accessed through network	
	Video Out	BNC x 1, VGA x 1, HDMI x1	
	Video Resolution	1920×1080, 1280×1024, 1280×720, 1024×768	
	Record Resolution	1080P(1920×1080) / 720P(1280×720) / D1 (704×576/704×480)	
	Record Frame Rate	D1: 30fps/camera 720p: 30fps/camera 1080p: 15fps/camera	D1: 30fps/camera 720p: 30fps/camera 1080p: 30fps/camera
	Record Bit Rate	Up to 32Mbps	Up to 128Mbps
	Supported IP Cameras	Q-See QC-series IP Cameras, Arecont Vision, AXIS, Canon, Dynacolor, Panasonic, Samsung, Sanyo, Sony, Onvif	
Audio	Audio Input	1 channel, RCA(200-2800mV, 30KΩ)	
	Audio Output	1 channel, RCA(200-3000mV, 5KΩ)	
Alarm	Alarm Input	8 Channel	16 Channel
	Alarm Output	3 Channel	6 Channel
Storage	Record Mode	Manual/Sensor/Schedule/Motion Detection/Camera Loss/Camera Block/Alarm	
	Multi-Function	Simultaneously Record, View Live or Recorded Video, Playback, Back-up files, Monitor Remotely	
Interface	Network Interface	RJ45 (LAN, Internet)	
	Communication Interface	RS485, RS232 USB 2.0 x 2 (One for Backup, One for USB Mouse)	
Controls		Front panel, USB mouse, IR remote control, Network	
Disk info	Disk Type	SATA x 2 (up to 4TB)	SATA x 4 (up to 4TB)
Other info	Voltage	DC12V/5A 48V/2.5A (POE)	110/240V
	Optimal Temperature	14°F to 131°F /-10°C to 55°C 10% to 90% Humidity	
	Power Consumption	20W (without Hard Drive)	40W (without Hard Drive)

Q-SEE PRODUCT WARRANTY

Q-See is proud to back all of our products with a conditional service warranty covering all hardware for 12 months from the date of purchase. Additionally, our products also come with a free exchange policy that covers all manufacturing defects for one month from the date of purchase. Permanent upgrading service is provided for the software.

Liability Exclusions:

Any product malfunction or abnormalities in operation or damage caused by the following reasons are not within the free service scope of our company:

1. Equipment damage caused by improper operation.
2. Improper equipment operation environment and conditions (e.g., improper power, extreme environmental temperatures, humidity, lightning and sudden surges of electricity).
3. Damage caused by acts of nature (e.g., earthquake, fire, etc).
4. Equipment damage caused by the maintenance of personnel not authorized by Q-See.
5. Product sold over 12 months ago.

In order to fulfill the terms of your warranty, you must complete the registration process after purchasing our product. To do this, simply fill out the User's Information Card on our website at www.Q-See.com

Qsee

QUESTIONS OR COMMENTS? CONTACT US

PRODUCT SUPPORT, DOWNLOADS, FIRMWARE UPDATES & MANUALS

24/7 Technical Resources

Live Chat (M-F, 9-5 PST)

www.Q-See.com/Support

simplicity - quality - technology

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